DOMESTIC ENGINEERING

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CEMBER
1942

Plumbing, Heating and Air Conditioning

We'll be ready

SIDE BY SIDE in the plants of Minneapolis-Honeywell and its subsidiary, The Brown Instrument Company of Philadelphia, control research for war and control research for peace go on twenty-four hours a day. Our present job is to provide the nation with the necessary equipment for combat, for military and defense housing and for essential war industry. Out of this experience are coming developments in automatic controls for American industry and American homes that will provide an effortless, scientific comfort and efficiency, for post-war living and working. To all who own or sell heating and air conditioning equipment, or who use industrial instruments, we say: "M-H and Brown Engineers are building, every day, every hour, for the war and for the future." Minneapolis-Honeywell Regulator Co., 2801 Fourth Ave. S., Minneapolis, Minn. In Canada: Toronto, Ontario. In Europe: London, England and Stockholm, Sweden.

MINNEAPOLIS-HONEYWELL

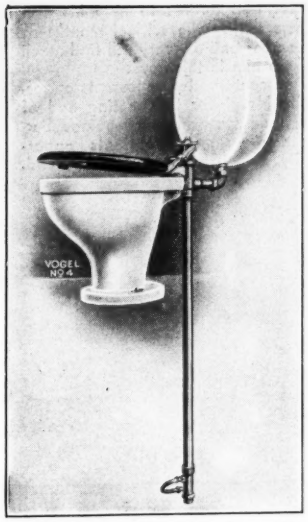
CONTROL *Systems*

VOGEL PRODUCTS in WAR PRODUCTION

In shipyards, light and heavy gun factories and arsenals; in steel, metal working, chemical and high explosives plants —wherever men and women are at work to supply the demands of a nation at war, VOGEL products are playing a vital part in the 'round-the-clock effort.

Toilet rooms and sanitary facilities must function on a twenty-four hour day basis ... there is no time for repair of faulty equipment. And there need be no time out for maintenance of VOGEL products. Built to operate under the heaviest duty, they can be depended upon to return the day in and day out service that is now a *must*.

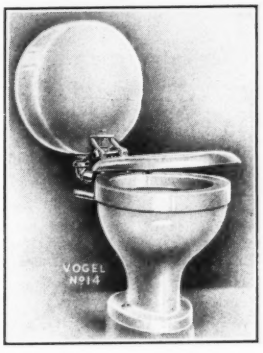
These VOGEL products are aiding in the war production effort. They are ready to do their part for you ...



This fixture can be furnished with Vacuum Breaker and Ball Check Waste.

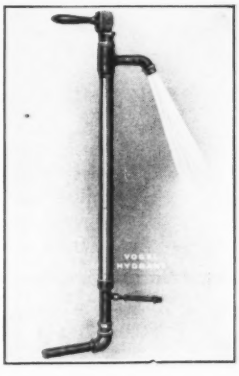
VOGEL NUMBER 4

Vitreous china bowl with top supply, painted white enameled drum type pressure tank, reinforced hardwood seat, union ell flush connection, lead waste connection, supply and flush valves assembled with 3 ft. 2 in. genuine wrought iron valve rod and casing.



And the VOGEL Frost-Proof Hydrant —a protection against fires resulting from bombing or acts of sabotage. Wherever installed they can be depended upon for an unfailing source of water—even at sub-zero temperatures.

Vogel Frost-Proof Hydrant for added fire protection in chemical plants and munition factories. Also for all outside installations. Over 35,000 now in use.



VOGEL NUMBER 14

Southern Outfit. Vitreous china top supply bowl, heavy brass flush valve, reinforced hardwood seat, painted white enameled drum shaped tank, union ell flush connection.

JOSEPH A. VOGEL COMPANY, WILMINGTON, DELAWARE

VOGEL PATENTED *Products*

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December, 1942

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On the materials front there is much of interest to our entire industry this month. First in importance is the War Production Board's recognition of the importance of maintaining existing equipment in workable condition. WPB announced that AA-1 priorities would be granted for essential repairs and maintenance, including housing.

Second is the clarification of the new Controlled Materials Plan which will, to a large extent, govern American industry from July 1, 1943. The entire Plan indicates (1) that essential civilian needs will be considered equally vital with essential military needs and (2) that some of the uncertainty which heretofore has characterized the priorities setup will be replaced by definite scheduling which will permit our industry and individuals in it to have a better idea of their position.

As home owners begin to feel the pinch of fuel oil rationing, our industry's services in easing the rigors and hardships of the people becomes more and more evident. The contractor who desires to help his customers during the critical months of December and January will find much to help him in this issue.

Fuel conservation represents opportunity No. 1 for the heating end of our industry. Housing remodeling for war workers represents opportunity No. 1 for the plumbing end.

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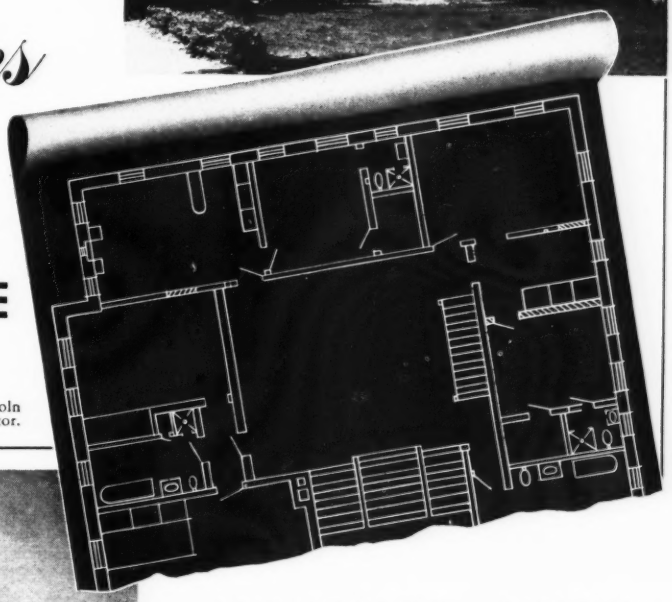
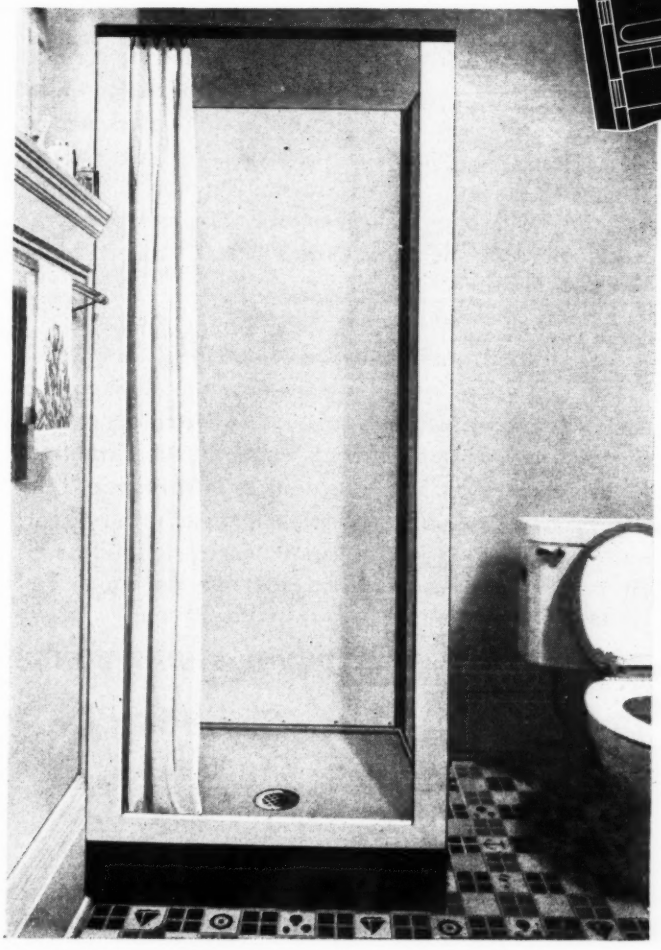
Homes for 7 Families

WHERE ONE LIVED BEFORE



One of the Weisway bathrooms in this remodeling project on Lincoln Way East, Mishawaka, Ind. Photos courtesy C. J. Mumford, contractor.



WEISWAYS SOLVE THE BATH PROBLEM

Once more Weisway Cabinet Showers give striking proof of their value in creating more living quarters out of present structures—quickly, economically.

When contractor C. J. Mumford acquired the big one-family "mansion" pictured at the top, to convert it to apartments, one of his chief problems concerned bath facilities. By the use of space-saving Weisways—complete, self-contained bath units—he was able to provide fully-modern apartments for 7 families where only one had lived before.

The section of floor plan above shows how perfectly Weisways are adapted to this remodeling to create more living quarters from present homes. The new Weisway Model V, created to meet the critical material limitations of WPB, is available on priority ratings of A-10, or better, for remodeling, for new war housing, and industrial bath requirements. Write now for complete information.

HENRY WEIS MFG. CO., INC. (Est. 1876)
1204 Oak St., Elkhart, Indiana

WEISWAY *Cabinet Showers*

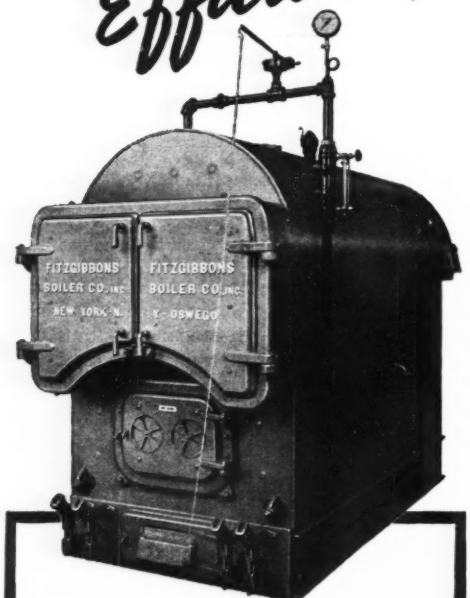
FITZGIBBONS

The PRODUCT *and the* COMPANY

Strength — Boilers fabricated of steel — designed to take fullest advantage of the enduring toughness which only steel possesses. Electrically welded, stayed and braced as long years of boilermaking experience dictate. Produced by an organization which is itself an outstanding example of industrial strength among American manufacturers.

Durability — A quality for which Fitzgibbons Steel Boilers are well known, maintained by a rigid system of inspection which permits of no compromise, working in full accord with Hartford Inspection and the A.S.M.E. Code. Behind this, a company which has demonstrated in its fifty-six years of continuous operation and successful growth, a standard of organizational durability possessed by comparatively few industrials.

Efficiency — Developed through correct proportioning of heating surface to absorb the largest volume of B.t.u's. Aided by design which sets up maximum water circulation to effect the quick steaming performance characteristic of Fitzgibbons Steel Boilers. Supported by efficiency in the organization, due to generations of experience in knowing how to organize most effectively, how to select key men, how to give their skill fullest scope.



THE FITZGIBBONS "D" TYPE STEEL BOILER

Built in types for any fuel, any kind of heating system, in a range of sizes from 2200 to 42,500 sq. ft. Steam rating, S.H.B.I. A rear smoke outlet firebox boiler with exceptionally long flue travel assuring greatest possible fuel economies.

As with all American front-line manufacturers, the facilities of Fitzgibbons are today going all-out for war. But heat is a war need too, and frequent trainloads of Fitzgibbons Built Products leave our plant for service under the American flag. In the meantime, Fitzgibbons recognizes its responsibility to aid in every way possible, the maintenance of present heating installations, and its Service Department is prepared to supply at need, replacement parts and other required equipment.

★ **BUY U. S. WAR BONDS**

Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK, N. Y.

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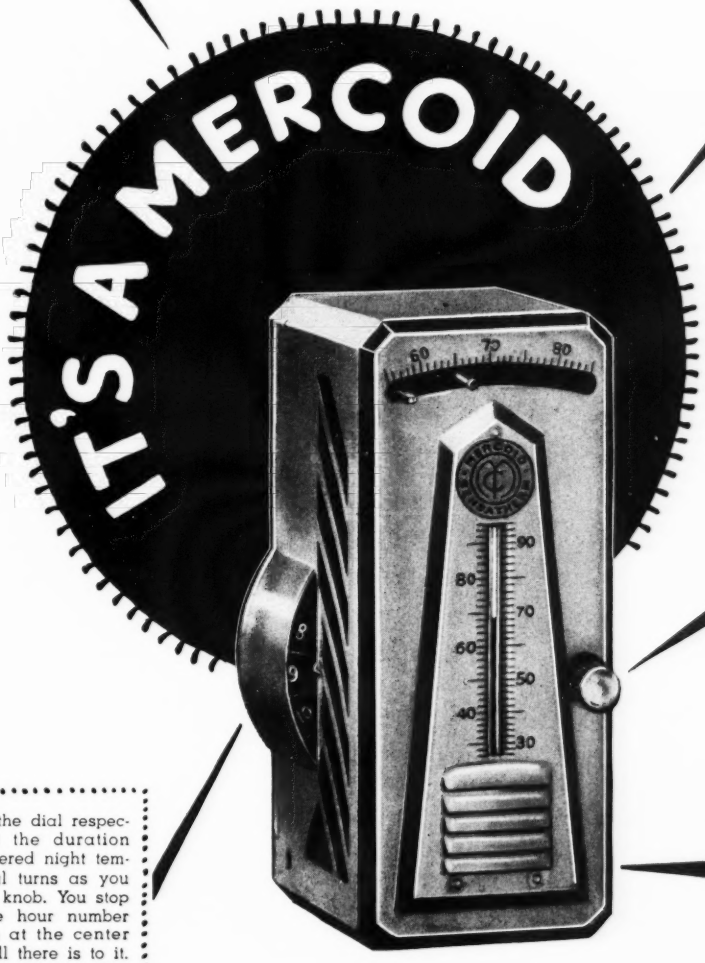
HERE'S A TIMELY THERMOSTAT

Known as Mercoid DNH Sensatherm

Yes, it's a Mercoid and that implies mercury switch protection against dust, dirt and corrosion, thereby assuring positive performance and longer control life.



The lever located to the left in the calibrated slot, shows the setting approximately 55 degrees F. for the night temperature. The lever to the right shows the setting at approximately 65 degrees F. for the day temperature. Both levers are easily adjusted with the finger tips.

Anyone can set the Sensatherm to suit individual requirements. The knurled knob is turned as you would wind a watch, only it takes less turns—just a few simple twists for the setting of the dial to the number of hours wanted for night temperature.

The numbers on the dial respectively represent the duration hours for the lowered night temperature. The dial turns as you wind the knurled knob. You stop turning when the hour number wanted appears at the center pointer. That is all there is to it. The instrument does the rest. The day temperature is automatically restored as desired.

The Mercoid DNH Sensatherm is small and very neat in appearance. The illustration is actual size. This instrument is easy to install. It will replace without rewiring, most types of low voltage thermostats such as are commonly used on oil burners, stokers, gas burners or damper motors.

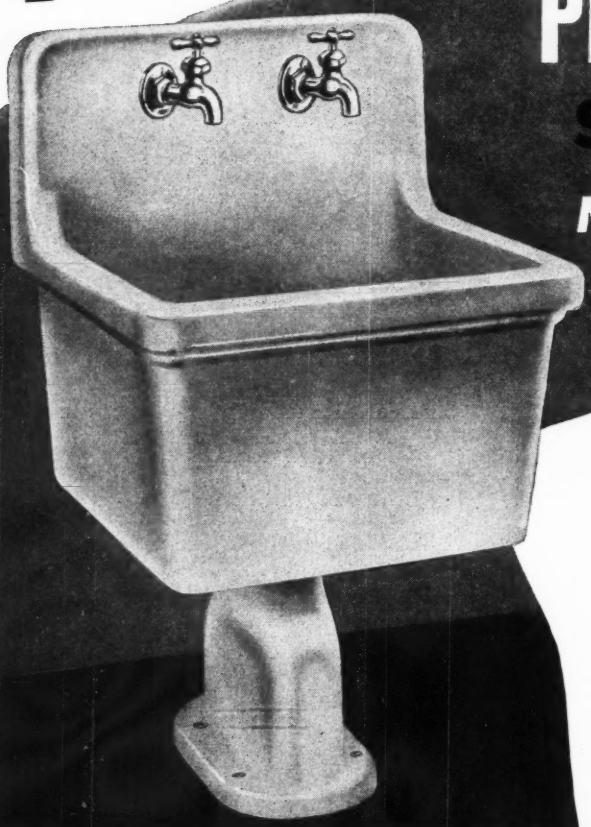
Priced to fit the most economical budget. When ordering, specify control equipment it is to be used with.

THE MERCOID CORPORATION • 4213 Belmont Ave. • Chicago, Ill.

FUEL SAVING NOW ENFORCED

Meet the situation the easy way by using the Mercoid day and night Sensatherm ★ It simplifies room temperature control problems. This type of thermostat has an advantage over clock type thermostats, because you or your guests are never subjected to unexpected chilled rooms when up at irregular hours. You control the thermostat—it does not control you.

General Ceramics Perma-Gloss Slop Sink B510 for Army, Navy and Industrial use. Size 22"x20". Weight 100 pounds crated. —also size 20"x16".



PERMA-GLOSS SLOP SINKS

Meet government specifications

Because of war restrictions on cast iron and pressed steel sanitary ware, General Ceramics has developed a new non-metal line called Perma-Gloss. It is made of carefully selected clays fired at a high temperature with a layer of vitreous china glaze. The process produces a homogeneous, durable, light, uniform body that will withstand thermal shock and will not craze or dunt. The surface is brilliant, lustrous and—what is more—is stain and acid proof through and through—not merely acid resistant. There's no paint or glaze to peel, no iron rust to stain clothing. The white glass-like surface cleans as easily as a china dish.

If required, vitreous "S" trap and strainer can be furnished. Plastic rim guards are available at a slight additional cost.

Specification reference index

Complies with Army Engineers' Specifications 8000E & PE623 — Also Federal Specifications WWP541a & E E-WWP541a

General Ceramic Plate Nos. Are From Illustrated Price Book G. C. 6

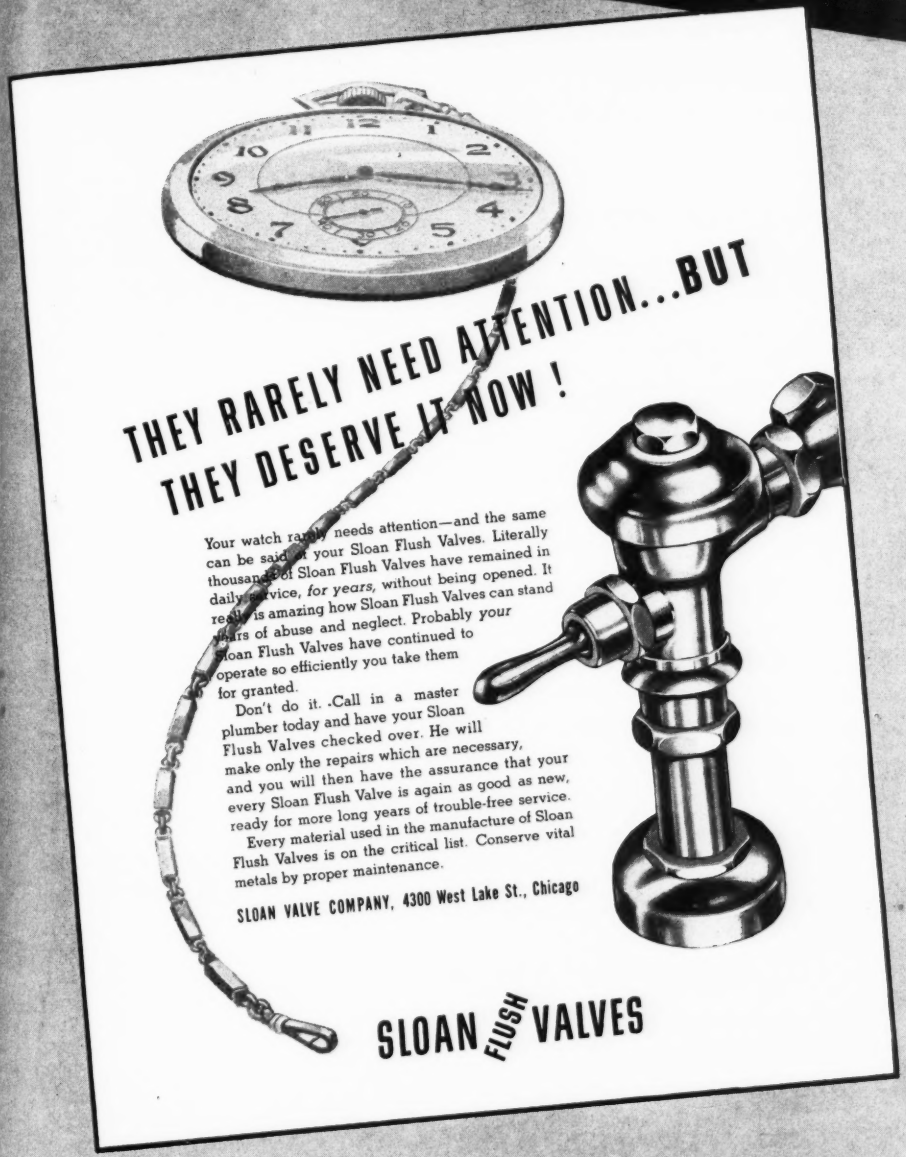
	Federal Specifications E-WWP-541a	Federal Specifications WWP-541a	War Dept. Specifications PE-623 (8000E)	General Ceramic Plate No.	Sizes	List Prices
CLOSET BOWLS AND COMBINATIONS	XE 46	E 46		G 220-221		13.20
	XR 46	R 46		G 235-237		10.95
	XR 31L			G 215		17.25
	XR 31L	R 31L		G 216		17.25
	XR 31L			G 217		18.75
	XR 31	R 31	P 1	G 245		6.50
			P 1	G 247		6.50
	X 31L	R 31L		G 275		10.75
		E 43B		G 265		18.05
		E 40		G 213		23.25
		R 40		G 211		20.30
URINALS	XV 12W		P 2	G 360		10.05
		V 18		G 330		45.00
		V 14		G 340		27.85
		V 18W		G 353		35.00
LAVATORIES	XVB 20		P 14	G 120	18x15	10.95
	XVB 20	VB 20	P 14		18x20	11.25
		VB 20L		G 115	20x18	14.80
		VB 24L		G 115	24x20	20.80
		V 20L		G 110	20x18	14.70
		V 24L		G 110	24x20	19.20
		VB 522		G 132	22x19	15.50
SINKS	XG 20		P 12B	B 551	20x18	5.65
					24x18	6.60
	XG 24			B 520	24x20	12.65
	XV 22	V 22	P 5	G 500	22x20	35.90
	XV 22		P 5	B 510	22x20	23.90
			P 7	B 530	30x22	31.50
TRAYS	XT 20			B 568	20x18	8.00

GENERAL CERAMICS COMPANY
SANITARY WARE DIVISION
METUCHEN, NEW JERSEY

GENERAL CERAMICS COMPANY
• SANITARY WARE •

3345

Sloan Ads are YOUR Ads


THEY RARELY NEED ATTENTION...BUT THEY DESERVE IT NOW!
Your watch rarely needs attention—and the same can be said of your Sloan Flush Valves. Literally thousands of Sloan Flush Valves have remained in daily service, *for years*, without being opened. It really is amazing how Sloan Flush Valves can stand years of abuse and neglect. Probably your Sloan Flush Valves have continued to operate so efficiently you take them for granted.
Don't do it. Call in a master plumber today and have your Sloan Flush Valves checked over. He will make only the repairs which are necessary, and you will then have the assurance that your every Sloan Flush Valve is again as good as new, ready for more long years of trouble-free service.
Every material used in the manufacture of Sloan Flush Valves is on the critical list. Conserve vital metals by proper maintenance.
SLOAN VALVE COMPANY, 4300 West Lake St., Chicago
SLOAN FLUSH VALVES

THIS NATION-WIDE CAMPAIGN FOR CONSERVATION BUILDS YOUR REPAIR AND MAINTENANCE BUSINESS

LOOK FOR BUSINESS FROM HOTELS, HOSPITALS, APARTMENTS, OFFICE BUILDINGS, SCHOOLS, CLUBS, ETC.

Every month Sloan Valve Company is helping build your repair and maintenance business—the long profit side of your ledger. . . . When you get a call, here are just a few suggestions: When opening a Sloan Valve use a flat wrench. Exercise care when removing the rubber diaphragm or molded cups, for with careful handling these can be re-used in most cases. Tighten the handle packing nut. Wipe plated Valves with damp cloth to restore lustre. . . . And remember: Sloan Flush Valves (the world's premier) are still available for all projects having the proper priority rating. SLOAN VALVE COMPANY, 4300 W. Lake St., Chicago.

SLOAN FLUSH VALVES

Conservation

OF CRITICAL WAR MATERIALS

Hammond compression stop and waste valve, ½" size No. 503, is now in production made with a malleable iron body and bonnet.

In cooperation with the government program we would be pleased to get a listing of bronze valves now on hand in jobber stocks that are available for redistribution. This service is handled on a no profit basis by Hammond.

PUT YOUR SCRAP INTO THE FIGHT

HAMMOND VALVES — Standard of value with the trade for over 30 years.

New Bulletin No. 140 published recently gives valves available under essential preference ratings.

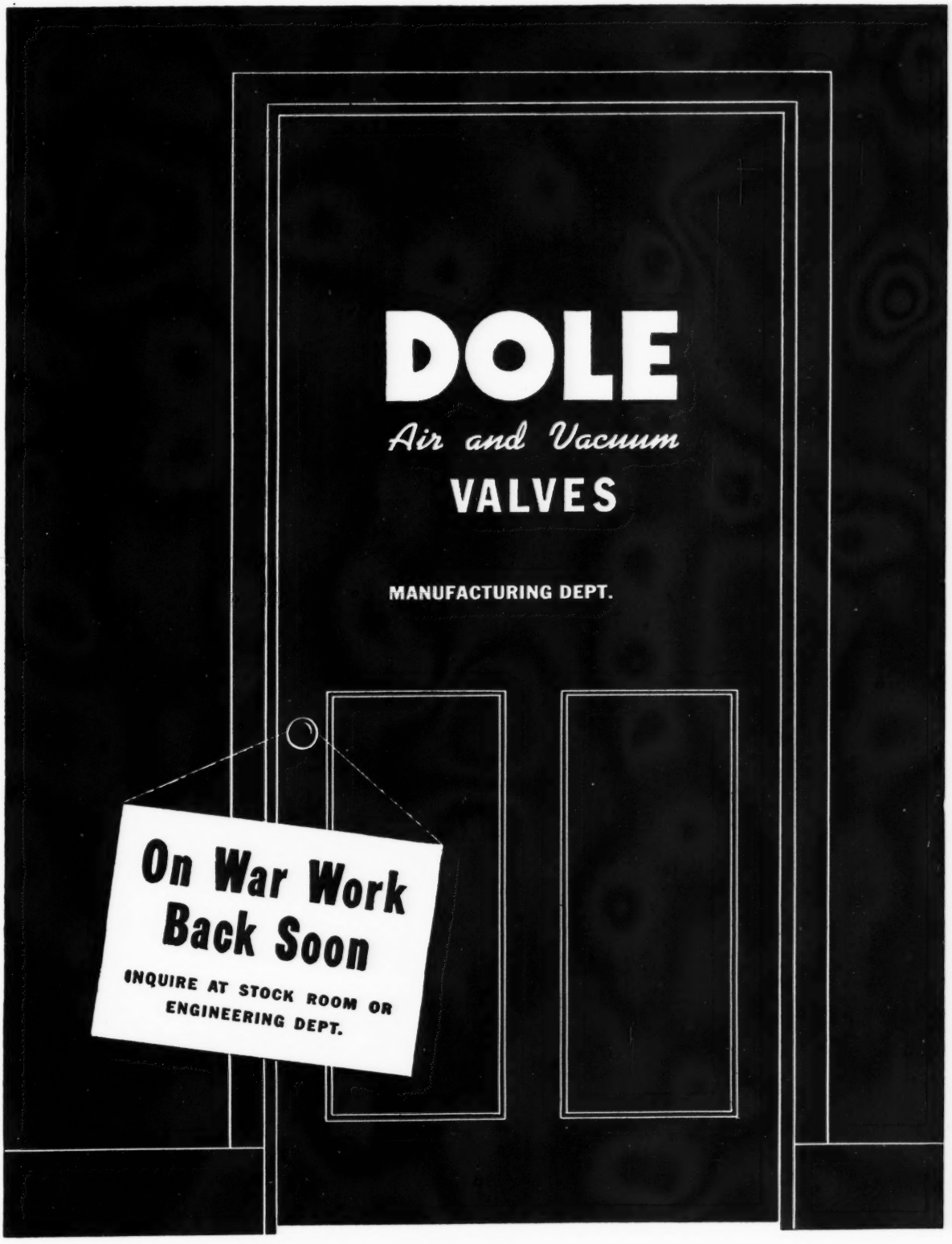
VALVE DEPARTMENT

HAMMOND BRASS WORKS

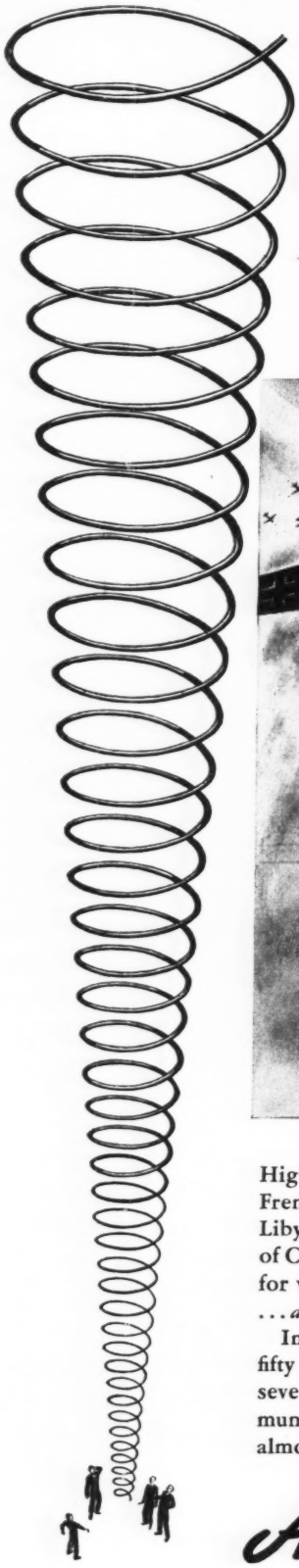
Hammond, Indiana

HAMMOND VALVES

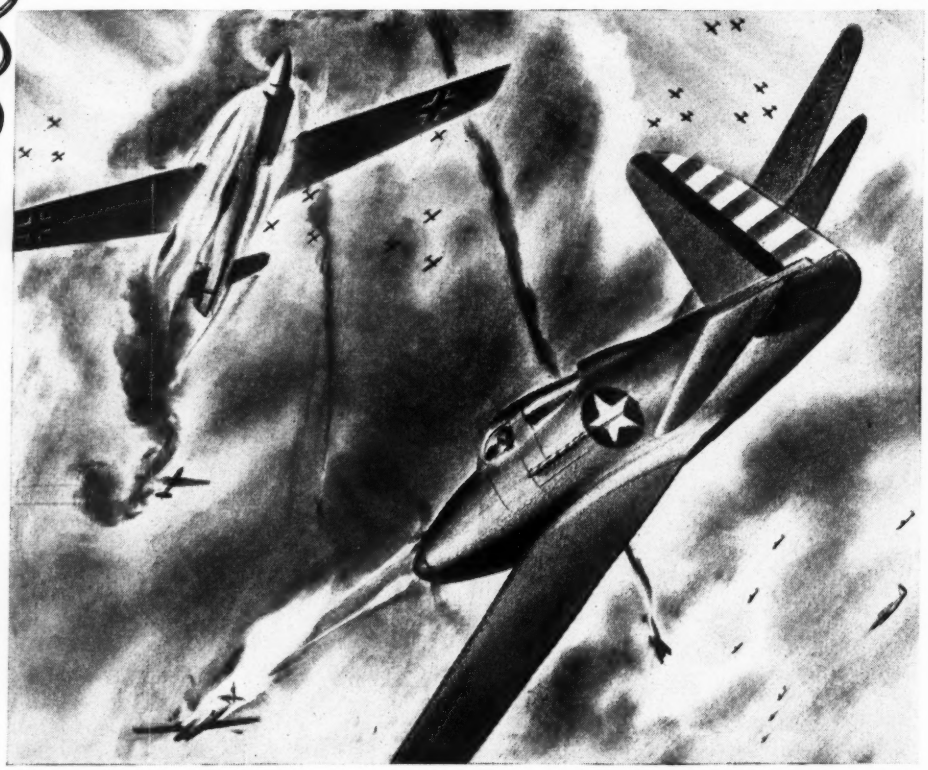
Look for the (H) on the body — (H) the mark of a dependable value



THE DOLE VALVE COMPANY
1901-41 Carroll Avenue, Chicago, Ill.
REPRESENTATIVES IN PRINCIPAL CITIES



RA-TI-TA-TAT GOES 50,000 FEET OF COPPER TUBE



High over Port Moresby and the battered French coast... over the glaring sands of Libya and the bloodsodden rice paddies of China, brave young aviators are fighting for victory with high performance planes ... *and copper!*

In every minute of furious air combat, fifty fighting planes shoot up more than seven tons of copper in the form of ammunition. This is enough copper to make almost 50,000 feet of ½" Type L water tube. This prodigious use of the precious red metal has naturally placed heavy demands on our production, but in the good old American way these demands have been met and in many cases exceeded.

In fact, so well have The American Brass Company workers fought for victory, that five plants have been honored with the cherished Army-Navy "E" pennants for outstanding production of war materials. 4231

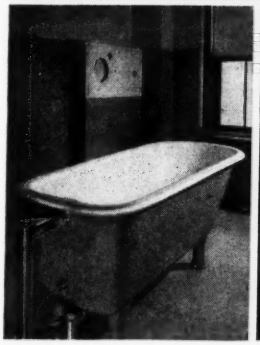
Anaconda Copper & Brass

ANACONDA from mine to consumer

THE AMERICAN BRASS COMPANY—General Offices: Waterbury, Connecticut

Subsidiary of Anaconda Copper Mining Company

In Canada: ANACONDA AMERICAN BRASS LTD., New Toronto, Ont.



● *The new Wesley Memorial Hospital in Chicago, recently opened, represents the last word in modern hospital design and construction. Throughout, the exacting demands of the architects were met by the complete Crane line of hospital equipment.*

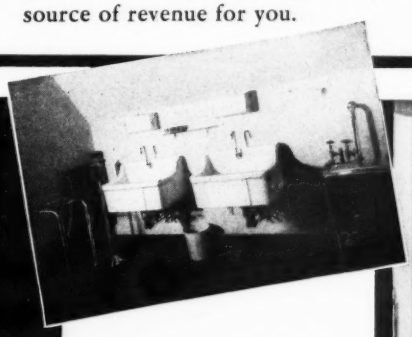
Increased Hospitalization

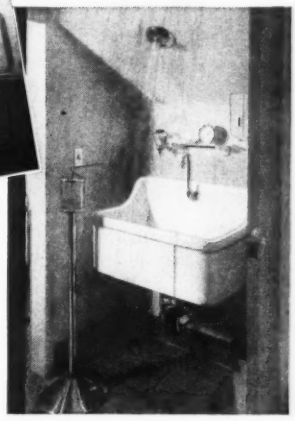
MEANS BUSINESS FOR YOU

Many factors are bringing about a large increase in the service hospitals are rendering. Besides the new hospitals being built to care for soldiers and sailors, new civilian hospitals are also increasing in numbers and many hospitals have found it necessary to enlarge their facilities by adding more equipment.

Plumbing contractors are finding that new hospital construction and modernization are offering a highly desirable source of business. Crane hospital plumbing has been designed in co-operation with surgeons and hospital supervisors and is recognized in the hospital field for its high quality. In the interests of conservation, this equipment uses a minimum of vital materials.

If you have not already done so, it would pay you to check into the hospitals in your community as any addition or improvements they may be planning would mean an important source of revenue for you.





● *The John and Mary Kirby Hospital of Monticello, Illinois, has recently been remodeled. The new sanitary equipment, like the original equipment in this hospital, is by Crane.*

CRANE

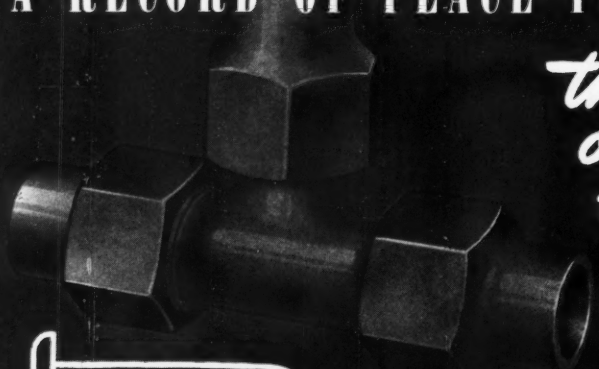
CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO

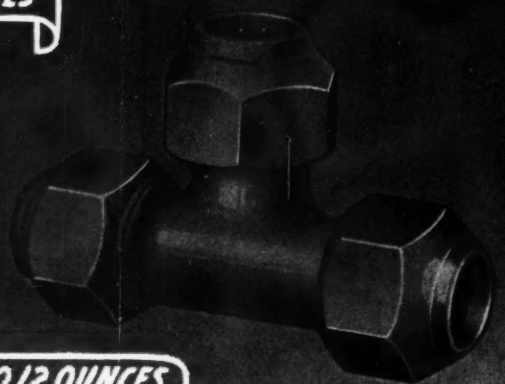
VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

A RECORD OF PEACE-TIME CONSERVATION

that has helped our nation meet war demands



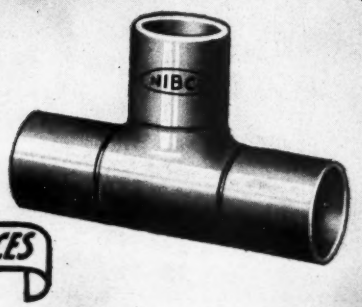


HERE'S "conservation" of materials as NIBCO has practiced the art for many years! Since NIBCO introduced copper plumbing in 1928 . . . . NIBCO engineers have been constantly developing new, LIGHTER and at the same time, STRONGER copper fittings. For example, the present WROT Tee for ½ inch copper pipe weighs but 2 ounces, compared to 1 pound 2 ounces for the same size in 1928 . . . yet is actually stronger. Nine fittings can be made today out of the same material needed for only one 14 years ago!

THE EVOLUTION OF

NIBCO

Wrot FITTINGS



NORTHERN INDIANA BRASS CO. ELKHART, INDIANA

VALVES AND FITTINGS SINCE 1904

Bathe-Rite SHOWER CABINETS..

Save

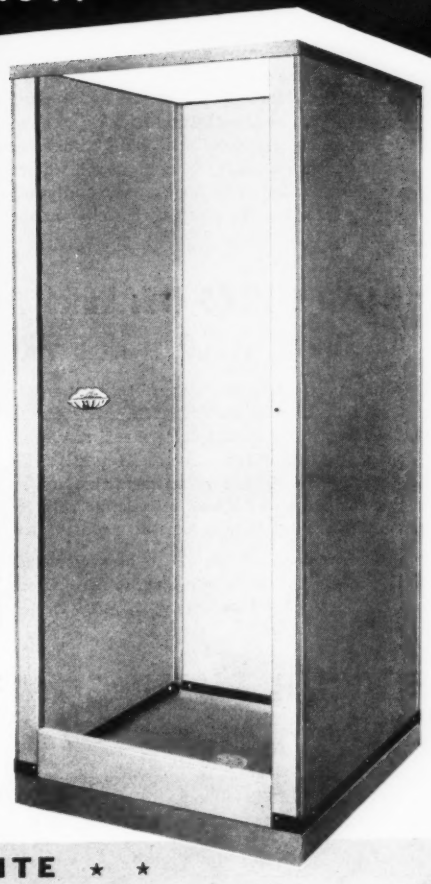
INSTALLATION MAN HOURS ON IMPORTANT BUILDING PROJECTS..

Plumbers and Contractors responsible for completing War Housing and Government Building Projects on time are saving HUNDREDS of vital MAN-HOURS with BATHE-RITE SHOWER CABINETS . . . And are providing truly modern, attractive bathing facilities that win immediate and enthusiastic approval.

Bathe-Rite Showers have exclusive quick-assembly features that cut installation time 25% or more per unit —even with unskilled help. To the Contractors, this means MORE Showers installed in LESS time and at lower cost . . . A Contribution to Wartime Speed possible only because of Bathe-Rites long experience, precision-manufacturing facilities and complete knowledge of prefabricated Shower needs.

WRITE OR WIRE FOR PRICES AND DETAILS

Give name of project and quantity required. Delivery assured on any quantity, when and where needed.



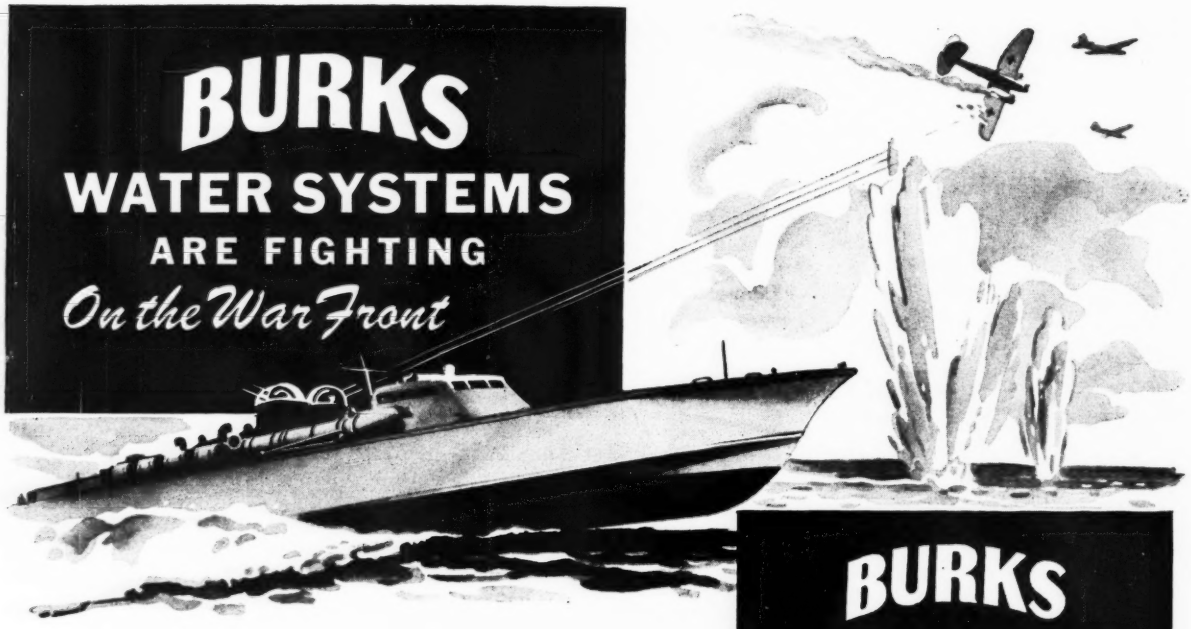
Two Standard Models — for Every Need —

Bathe-Rite Prefabricated Cabinets come in two sizes (30 x 30 x 75", 32 x 32 x 75"), and meet ALL Wartime specifications of U. S. War Department and Federal Public Housing Authority. Packed for easy handling and assembly.

Bathe-Rite division
MILWAUKEE STAMPING COMPANY
804 S South 72nd Street, Milwaukee, Wisconsin

★ ★ QUALITY-BUILT by BATHE-RITE ★ ★

BURKS
WATER SYSTEMS ARE FIGHTING *On the War Front*



HOW BURKS DEALERS AND JOBBERS CAN HELP THE FIGHTING FRONT

All orders for BURKS Pumps and Water Systems are taken through the Burks dealer-jobber organization. It is, therefore, your duty to contact every munitions plant, navy yard, army or navy camp, ordnance plant and every factory or plant manufacturing vital war materials. Find out what their pumping needs are or will be. Take steps to get orders for bilge and water pumps on boats, for pumps and water systems in camps and navy yards, for condensation return units and pumps for ammunition and war materials factories. We are ready to help you in every way possible —don't hesitate to call on us.

HOW BURKS DEALERS AND JOBBERS HELP HOME FRONT

The farm is so important in the war effort, we must leave no stone unturned in helping to keep all BURKS Water Systems on farms operating efficiently. Running water means more meat, more milk, more eggs and less time-consuming chores for farmers. Keep BURKS users advised on the care of their system. Urge regular inspection and servicing of pumps. Check old systems—tighten Lif-Lok Impeller adjustment nut to give worn pumps increased capacity. Supply necessary repair parts.

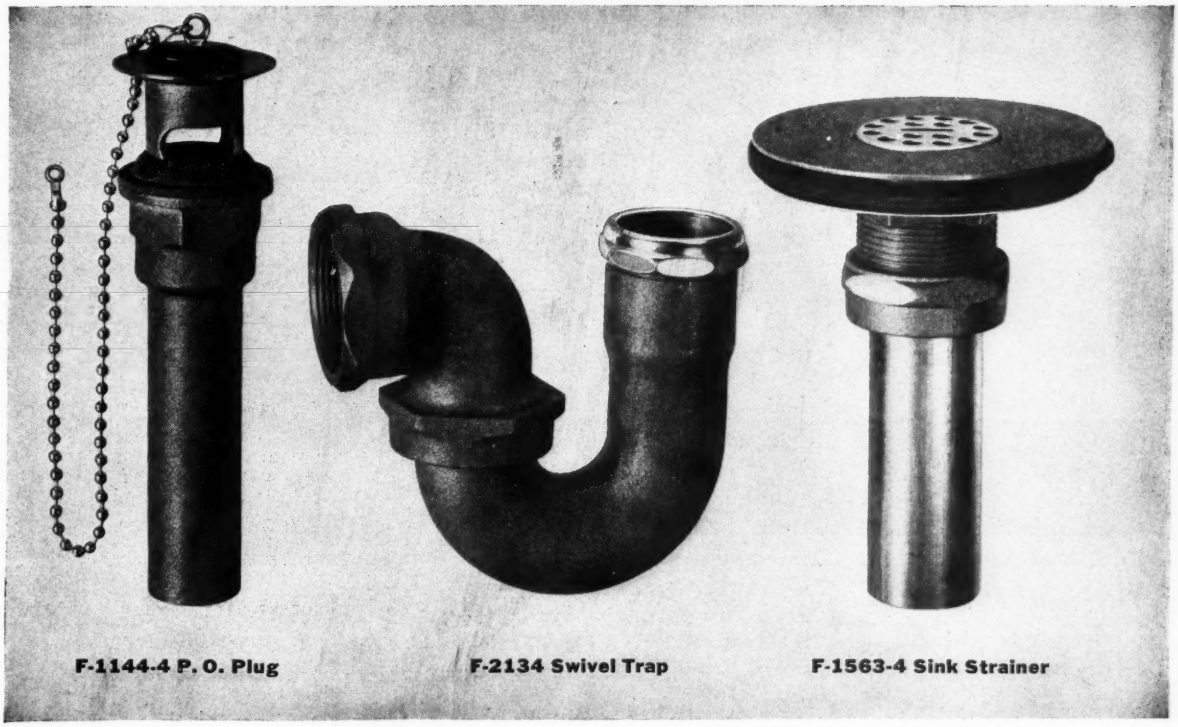
Encourage customers and friends to buy War Savings Bonds. Help promote scrap salvage. Take active part in Red Cross, USO and other war aid drives. These are all important BURKS Dealer-Jobber duties we know you will loyally fulfill.

DECATUR PUMP COMPANY
33 ELK STREET • DECATUR, ILLINOIS

BURKS
WATER SYSTEMS ARE FIGHTING ON *The* HOME FRONT

On Thousands of Farms the steady dependable flow from BURKS Water Systems is helping to Produce More Milk — More Meat — More Eggs.

BURKS *The "QUALITY" WATER SYSTEM*



WATERVILLE QUALITY FERROUS METAL PLUMBING

In order to meet the present problems of the Plumbing Trade the Waterville Division now offers a limited line of ferrous metal plumbing products. The line includes P.O. Plugs—Sink and Wash Tray Combinations—Traps—Cast Hexagon Slip Nuts—Sink Strainers—Wastes and Overflows—Tailpieces... key items the Trade will find essential.

Plumbing products of the Waterville Division have long been known for rigid quality standards. In this ferrous metal line these standards have been painstakingly maintained to the maximum limits of the materials.

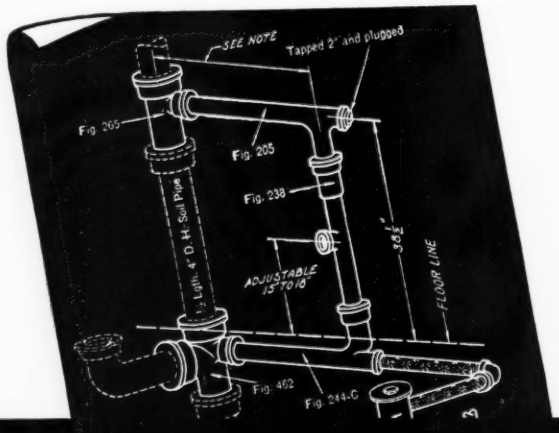
Available supplies of these ferrous metal plumbing products will be distributed in accordance with the Waterville Division policy of strict adherence to Priority Ratings, where they apply, and equitable distribution according to actual needs.

A folder giving further details is available on request.

SCOVILL

SCOVILL MANUFACTURING COMPANY
WATERVILLE DIVISION
GENERAL SALES
WATERVILLE, CONN.

SCOVILL
Masters of Metal



KEEPING THE HOME FRONT HEALTHY...

How the Plumbing Industry Cooperates

The Plumbing Industry can well be proud of its contribution to the Victory effort. In the face of labor scarcity, transportation limitations and material shortages, this Industry has made an outstanding effort to keep the home front healthy . . . to supply and install adequate plumbing facilities for essential home remodeling, for mass housing projects, for industrial plants and for military establishments.

As one emergency has followed another, the Plumbing Industry has called upon all its native ingenuity and trained skill to provide health-assuring sanitation throughout our mobilized country. For many years our organization has occupied a leading position in the Industry. We are happy to place all our facilities at your command . . . to cooperate with you in every way possible. Our engineers are equipped to serve you . . . and the Nation.

ALABAMA PIPE COMPANY

Anniston, Ala.

To MASTER PLUMBERS and WHOLESALERS

Now, while we are looking forward to a Victorious 1943, we wish especially to thank you for your patronage and your indulgence during these strenuous times. Merry Christmas to each and every one of you.

Alabama Pipe Company

Make it a Merry Christmas in every home...
GIVE WAR BONDS!

STRIKINGLY beautiful, outstanding in durability . . . the new OLSON-ITE Plastic Seat now makes its debut!

This new, extraordinary seat is made of OLSON-ITE Plastic used in its natural color and buffed to a lustrous, permanent beauty. It won't chip, crack, peel or fade! For OLSON-ITE Plastic is moisture-proof, acid-proof, oil-proof and non-inflammable.

To enhance the natural beauty of these seats, concealed type hinge posts of non-corrosive steel are covered with OLSON-ITE Plastic which perfectly matches the seat . . . no metal is exposed.

In every detail, the new OLSON-ITE Plastic Seat conforms with specifications demanded by the most discriminating architects. You can install it in government projects as well as civilian jobs with the utmost pride and confidence. For complete descriptive literature, write Dept. SCS-5831 today.

SET A NEW MEASURE OF *Perfection!*

MOLDED, SEAMLESS ONE-PIECE *Plastic*

. . . molded in one-piece under 300,000 pounds pressure, much stronger than practical purposes require. Weakening joints, seams and crevices are eliminated to form an almost indestructible seat!

● OLSONITE PLASTIC . . . THE SEAT OF GUARANTEED SUPERIORITY

Swedish CRUCIBLE STEEL COMPANY

8561 BUTLER AVENUE . . . DETROIT, MICHIGAN

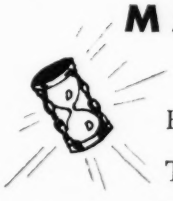
Twin Contact Controls

IN THE YEAR THAT COUNTS

DOUBLE

Twin Contact Controls

MAINTAIN THEIR RECORD



For the fifth consecutive year, dealers and service men are finding Twin Contact Controls remarkably free from service troubles. And this year — 1942 — that record means far more than ever before.

Every control that has to be repaired or replaced requires vital material, precious man-hours — and America needs both for a different purpose just now. Continuous, dependable service from every heating plant now operating is essential to our war effort. Under these conditions, the fact that Twin Contact Controls stay on the job with little or no attention becomes doubly important.

When the automatic heating industry can resume its normal activities, it will pay you to remember that Father Time has measured Twin Contact Controls, year by year, and found in them full value of dependability and trouble-free service.

PERFEX CORPORATION

Milwaukee, Wisconsin

SCAIFE COMPANY
WISHES YOU A
MERRY
CHRISTMAS
AND A HAPPY
NEW YEAR
Get this
Free Booklet
SCAIFE COMPANY
General Offices and Works OAKMONT (Pittsburgh District), PA.
Representatives in Principal Cities

Illustration shows magnified cut-away section of No. 50 Vacuum Breaker installed in DELANY FLUSH VALVE. Note how the flush tube is AIR-VENTED. Flexible rubber check valve with lips at base is contracted by vacuum. When valve is flushed, the check valve expands tight against the tube closing the air-vents — water passes thru the expanded lips.

The DELANY No. 50 Vacuum Breaker is simple in design and action. It is 20 year's ahead of any vacuum breaker on the market. It has no moving metal parts to stick or freeze. It provides more protection and is fool-proof and tamper-proof.

The DELANY No. 50 Vacuum Breaker telltales the slightest defect—it is self-policing.

USED IN ALL TYPES OF GOVERNMENT PROJECTS *EVERYWHERE*

SINCE 1879

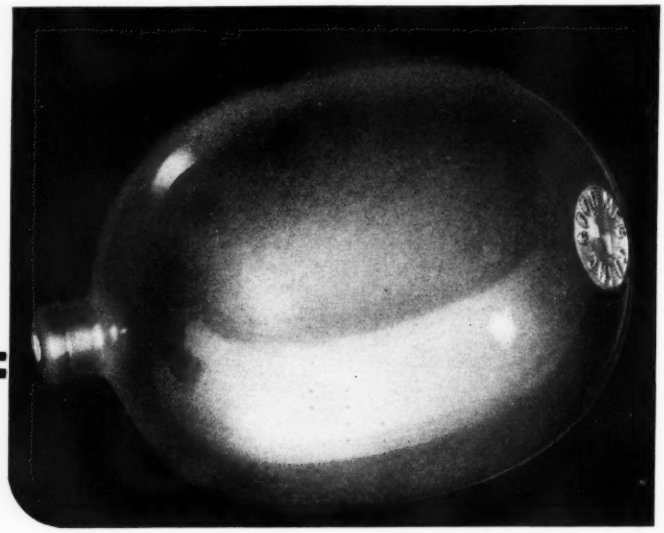
Coyne & Delany Co.

BROOKLYN N.Y.

FIRST *in the field*

WITH A . . .

Proved One-Piece Plastic Float!



EXCLUSIVE ONE-PIECE MOLDED CONSTRUCTION!
NO WEAKENING JOINTS
EXTRA STRONG FOR LONGER SERVICE!
CORROSION-PROOF!

IF IT'S THE BEST IN PLASTICS IT HAS TO BE "GOOD!"

PLASTIC PLUMBING SPECIALTIES ARE HERE TO *Stay!*

Make no mistake about it . . . plastics have earned their permanent place in the plumbing specialty field. And GOOD has earned a leading position in the production of plastic plumbing specialties by developing a new one-piece all-plastic seamless tank float.

Because of its exclusive one-piece construction, this new GOOD Plastic Tank Float is virtually indestructible. It is buoyant, stronger, longer wearing; less subject to deterioration. That's why we are so confident that the GOOD All-Plastic Tank Float will sell as readily in the post-war period as in this day of material shortages.

Don't overlook this opportunity to merchandise the newest and most outstanding in the field of plumbing specialties—the GOOD One-Piece All-Plastic Tank Float. Write our New York office or contact your GOOD salesman for further details. Orders will be filled immediately on this priority-free product.

GOOD MANUFACTURING CO., INC.
200-208 LINCOLN AVENUE NEW YORK, N. Y.

Improved Plastic Plumbing Products by GOOD

• NEW
PLASTIC FLUSH ELBOWS
2 x 4 x 6
2 x 5 x 7
2 x 6 x 8
2" Plastic Nuts

• NEW
PLASTIC SHOWER CURTAIN HOOKS
12 Beautiful Colors

• NEW
1" OVERFLOW TUBES
1" GUIDE ARMS

Help Create

...YOUR OWN MARKET

This Portfolio shows how!

An emergency faces the nation—homes *must* be converted to create housing units for war workers! Here is a newly emphasized market right at your front door . . . an opportunity to sell not only Vitreous China fixtures but the other materials you handle which are so vitally needed in home conversion and remodeling.

The Universal Plan is geared to action . . . in tune with the needs of the moment . . . a plan to bring you community-wide prestige, a sense of doing something for the country's war effort, a chance for actual well-earned profit! It's a plan every progressive dealer will want to know about and in which he'll want to share!

UNIVERSAL VITREOUS V/C CHINA *Plumbing Fixtures*

***Mail the coupon NOW—get the facts about the Universal Plan, find out how essential it is and how you can get your community to help do its part for Victory, but, above all,* how you can help yourself!**

Universal Sanitary Mfg. Co.

Pioneers in the Manufacture of Vitreous China Since 1901

New Castle, Pa.—Camden, N. J.

3

Mail This Coupon Today

UNIVERSAL SANITARY MFG. CO.,
NEW CASTLE, PA.

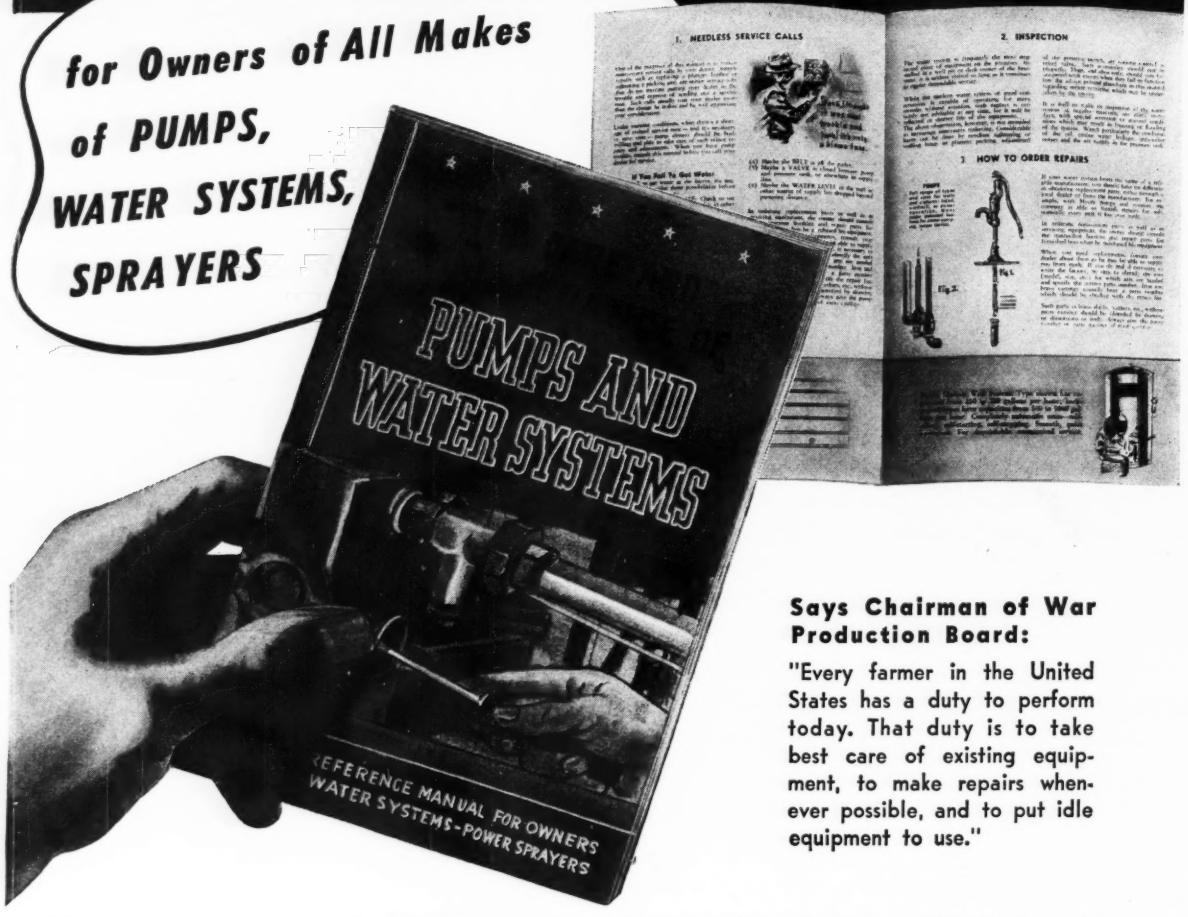
I am interested in learning more about becoming an active worker in the "Remodeling for Victory" Campaign, and to use the Universal Plan for creating additional housing units for war-workers. Please send me my copy of the free Portfolio at once.

NAME.....

ADDRESS.....

New Free Manual for YOUR Customers!

for Owners of All Makes of PUMPS, WATER SYSTEMS, SPRAYERS



Says Chairman of War Production Board:

"Every farmer in the United States has a duty to perform today. That duty is to take best care of existing equipment, to make repairs whenever possible, and to put idle equipment to use."

Don't wear out your service department and your trucks on *unnecessary* and *unprofitable* service calls. That's *one* rule every wise dealer wants to observe today — and here's the way to make it work if you are in the pump, water system or power sprayer business. No matter what make you handle, if you will place this free book in the hands of your customers, it will save you loss of time and money on "nuisance" calls—and make your customers grateful to you.

Here is an authoritative *general* manual on "home" care of ALL MAKES of pumps, water systems and power sprayers. Tells how to diagnose common pump troubles and make minor adjustments and repairs. Full of illustrations and useful customer information. Reasonable quantities free to any dealer, regardless of make of equipment handled. Write us.

MYERS DEALERS: SELL THIS HOME REPAIR KIT

This handy kit enables owners of Myers Water Systems to make simple repairs. Kit contains cup leathers, gaskets, valve springs and similar parts. Write us.

THE F. E. MYERS & BRO. CO.
110 Fourth St., Ashland, Ohio

36WS2

MYERS *Dependable* **WATER SYSTEMS**

Heads snap in, can't fall out . . . push out easily for changing

It's the Work-Saver RIDGID Small Threader

VERY BUSINESS-LIKE, these RIDGID No. 11R Ratchet Threaders for pipe to 1¼". You snap in the head, *from either side*—it stays firm while you thread; but you push it out easily for changing size. Alloy steel chaser dies quickly removed for regrinding, or reversing for close-to-wall threads, no special dies needed. Dies for conduit work, if desired. Handy carrier free with complete sets. Six tools: 11R, 0R, 00R, 11AR and two 3-way die stocks. . . . Ask your Supply House for these speedy smooth-threading RIDGIDs.

RIDGID *3-way Die Stocks —No. 30A, ⅜" to ¾"; 31A, ½" to 1"*

RIDGID has the *wide-open* Adjusting Nut you can get hold of

IT'S RIGHT OUT in the open where you can get your hand on it, turn it easily to pipe size. It won't bind—you can spin it, on the little 6" wrench or the big 60". And RIDGID has other work-saver features—quick grip and let-go jaws, heeljaw replaceable, hookjaw with helpful pipe scale; powerful comfort-grip I-beam handle; guarantee label on the housing saves you all housing troubles and repair expense. Made also in End Pattern for coils. Millions in use—*you* save money, time and work with RIDGIDs. Ask your Supply House.

RIDGID *End Wrench, sizes 6" to 36"*

All RIDGID Pipe Tools are sold through Supply Houses

RIDGID

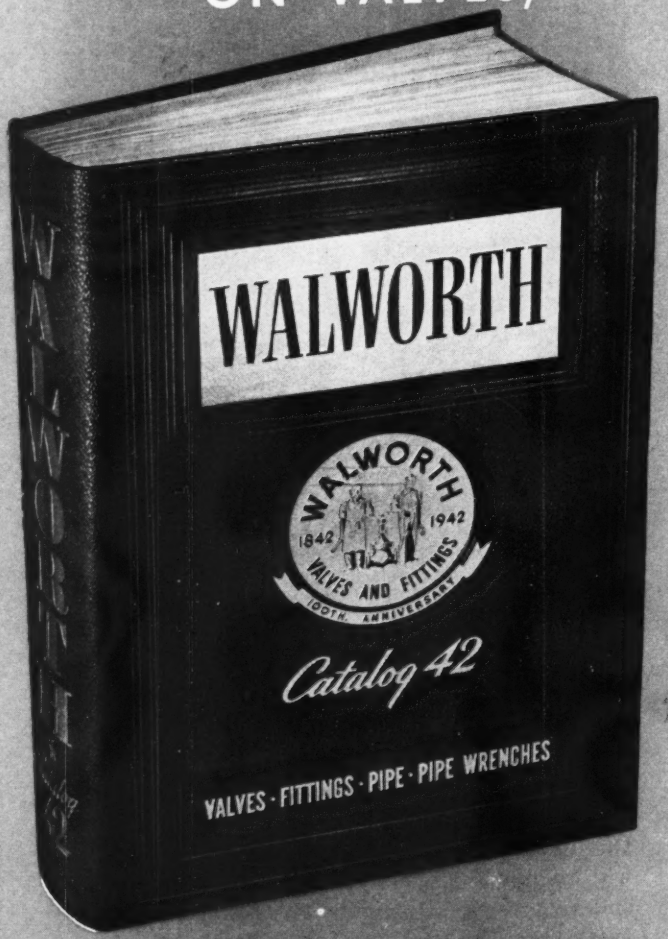
Pipe Wrenches, Cutters, Threaders, Vises

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

Work-Saver Tools for America's Big Job in 1942

Specify FROM THE NEW WALWORTH Catalog 42 and be sure!

HERE'S THE COMPLETE UP-TO-DATE DATA ON VALVES, FITTINGS AND PIPE



1. **METALS** — complete data on all types used including conformity with A.S.T.M., Marine and U. S. Navy specifications.

2. **PRESSURES**—working and test pressures; plus service recommendations.

3. **DIMENSIONS**—complete for layout and operation with cross sections to clarify internal construction.

4. **ENGINEERING DATA** — charts, tables, formulae to make valve and pipe installations easier.

5. **TELEGRAPHIC CODE**—carefully indexed to simplify and speed up accuracy in specifying.

Your new Walworth Catalog 42 is off the press. Clearly indexed and detailed so as to be most useful, it gives the last word on any question concerning our products.

Priorities on transportation may delay the receipt of your copy but we are doing everything possible to expedite delivery.

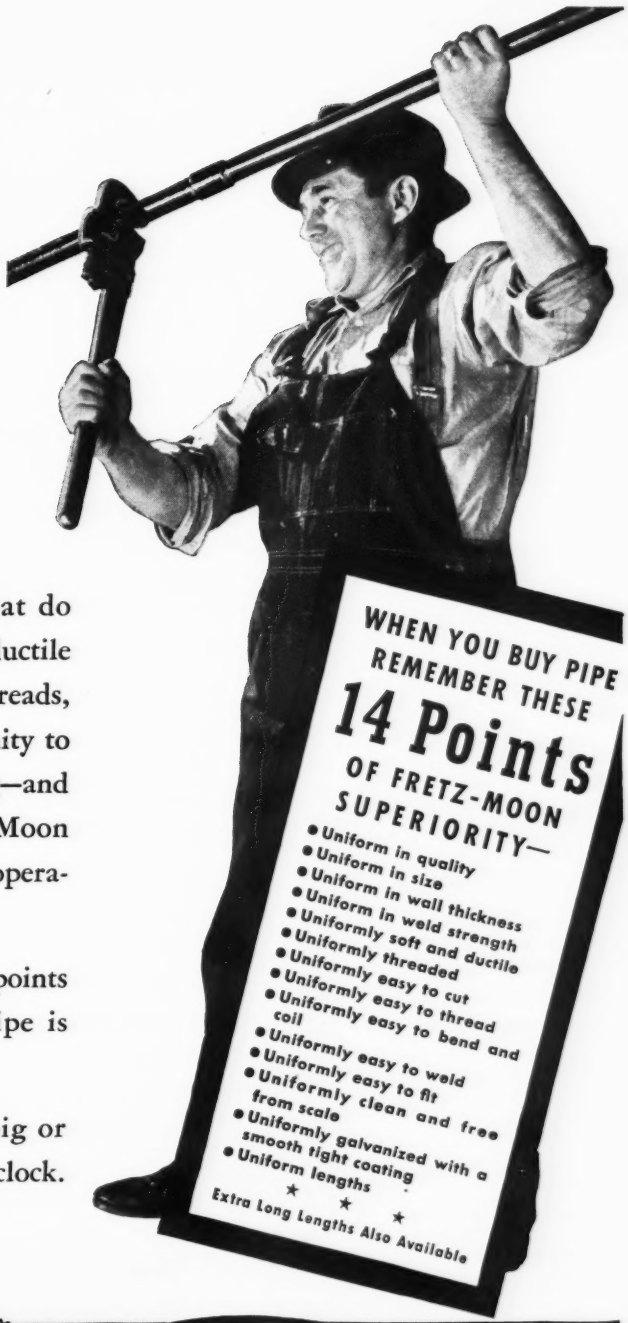
WALWORTH

WALWORTH COMPANY
60 EAST 42nd STREET, NEW YORK

VALVES FITTINGS and TOOLS
Backed by 100 Years' Service

DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD

Saves Time in Fitting


WHEN YOU BUY PIPE
REMEMBER THESE
14 Points
OF FRETZ-MOON
SUPERIORITY—
• Uniform in quality
• Uniform in size
• Uniform in wall thickness
• Uniform in weld strength
• Uniformly soft and ductile
• Uniformly threaded
• Uniformly easy to cut
• Uniformly easy to thread
• Uniformly easy to bend and coil
• Uniformly easy to weld
• Uniformly easy to fit
• Uniformly clean and free from scale
• Uniformly galvanized with a smooth tight coating
• Uniform lengths
★ ★ ★
Extra Long Lengths Also Available

Add them all together—sound welds that do not split in threading and bending—soft ductile metal free from hard spots that cuts, threads, bends and welds easily and fast—uniformity to size that speeds up fabrication and fitting—and here you have a quick picture of Fretz-Moon Pipe—the pipe that saves time on every operation in your shop or on the job.

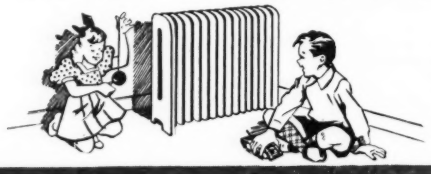
To be satisfied with less than the fourteen points of uniformity offered by Fretz-Moon Pipe is just throwing away your profits.

Try Fretz-Moon Pipe on your next job, big or little, and let it do its own talking by the clock.

THE *Original* CONTINUOUS-WELD PIPE

Stocked by jobbers in steel—black and galvanized—in UNIFORM LENGTHS.
Fretz-Moon Tube Co., Inc., Butler, Pa.

THIS IS A *TWO FRONT* WAR!



We are in there fighting on both fronts!

America has a two-way job to do today! To produce everything the armed forces need to insure a total Allied Victory. And to produce those essentials necessary to protect the morale, health and safety of civilian workers. NEW YORK AIR VALVE CORP. is in there fighting on BOTH fronts—fulfilling prime contracts with the War Department and sub-contracts; and meeting the demands of Heating-Plumbing Contractors for NEW YORK Air Valves for civilian use.

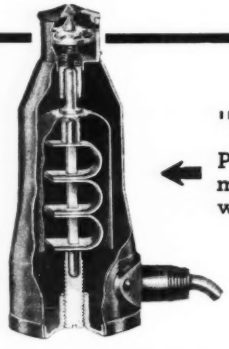
Today, in the face of fuel restrictions, NEW YORK Air Valves play an increasingly important part in safeguarding the nation's fuel stocks and in giving consumers genuine heating economy and efficiency.

Plumbing-Heating Contractors who recommend NEW YORK Air Valves are helping the nation to conserve fuel . . . helping their customers to save heating dollars . . . and helping themselves to profits that enable them to continue serving the public.

The simple P-84 rating will secure an ample supply of NEW YORK Air Valves from your wholesaler, since every sale for replacement is an emergency repair or fuel conservation job. NEW YORK Air Valves are also obtainable for all types of new building projects permitted under wartime regulations. They are available in both adjustable orifice and non-adjustable types.

Safeguarding
THE NATION'S FUEL STOCK
for 44 Years

☆

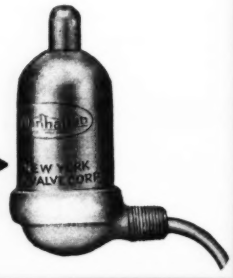


"NYAVCO" ORIFICE CONTROL AIR VALVE

Perfect for hand-fired coal burning jobs. Vital to automatically fired jobs. Insures top heat in EVERY radiator when burner stops, not just in one room.

"MANHATTAN" TYPE

Hundreds of thousands of "Manhattan" and our other competitive air valves such as Air-Out, Air-X-Pel, No. 476, No. 621 and No. 100 are now giving reliable, long-term service throughout the United States.



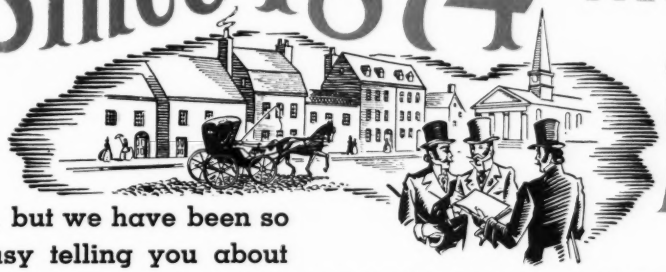
☆

Buy
"NEW YORK" AIR VALVES
from your
WHOLESALER

NEW YORK AIR VALVE CORP.
611-621 BROADWAY, NEW YORK, N. Y.

. . . OUR THANKS AND SEASON'S GREETINGS
TO THE PLUMBING AND HEATING TRADES

Since 1874 WATTS *has manufactured* STEAM VALVES AND STEAM SPECIALTIES



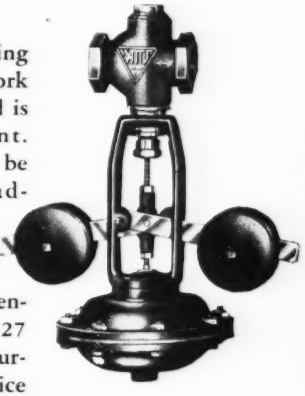
. . but we have been so busy telling you about our newer products like RELIEF VALVES, PRESSURE REDUCING VALVES, LOW WATER CUT-OFFS and BOILER WATER FEEDERS that we haven't given our STEAM VALVE LINE much publicity, so . . .

Let's look at the record—

TYPE 27
SINGLE SEATED
SPRING OPERATED
DIAPHRAGM REDUCING VALVE
FOR STEAM, WATER, AIR

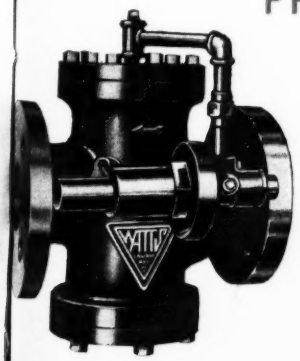
An extremely popular regulator. Has a wide range of reduced pressure capabilities by using different sized diaphragms for greater sensitivity. Features permit interchangeability of seating suitable for either steam, water or air service. Specially adapted for process and heating dead-end service. Manufactured in sizes ½" - 3" inclusive. Simple to adjust — positive in operation. Meets with many Govt. specifications.

TYPE 2
DOUBLE SEATED
WEIGHT AND LEVER OPERATED
DIAPHRAGM
REDUCING VALVE
FOR STEAM



For steam heating and process work where the load is very constant. Should never be used on dead-end service. Otherwise this valve is practically identical with Type 27 illustrated for purpose and service capabilities. Principal difference is double seated operation permitting more sensitive regulation. Furnished in sizes ½" - 10" inclusive. Is capable of handling very low reduced pressure requirements.

TYPE 35 AUXILIARY PILOT OPERATED PRESSURE REGULATOR
FOR STEAM SERVICE



Valve is single seated and suitable for dead-end service. Pilot valve is monel and protected by monel strainer. It is particularly adapted for intermittent service or where the load is variable to a high degree. Initial pressure variations do not affect the reduced pressure. Furnished in sizes ½" - 8" inclusive. Is capable of the widest reduced pressure range of valves illustrated.

This isn't even a part of the story of WATTS STEAM VALVES and specialties, for it just can't be told on one small page. Send for our STEAM SPECIALTY CATALOGUE No. 29 — it's full of illustrations, facts and figures.

WATTS PRODUCTS SERIES — A SIGN OF QUALITY — AD No. 5

WATTS REGULATOR CO. LAWRENCE, MASS.

DOMESTIC ENGINEERING *Magazine*

★*Editorial* LEADERSHIP

Since 1889, for more than 53 years, DOMESTIC ENGINEERING has served the plumbing and heating industry. The quality of this service and the leadership exhibited by DOMESTIC ENGINEERING is indicated by the award recently presented to this publication for editorial achievement in 1942. See reproduction of plaque below. The honor was conferred in recognition of a major editorial program carried on during the last 12 months and designed to be of maximum benefit to the plumbing and heating industry and to the war effort UNDER 1942 CONDITIONS.

A similar award UNDER PEACE-TIME CONDITIONS was received in 1939 by DOMESTIC ENGINEERING in recognition of its program designed to fight the depression.

DOMESTIC ENGINEERING's leadership has carried through peace-times as well as war-times . . . depressions as well as prosperity.

★*Circulation* DATA

Each month DOMESTIC ENGINEERING reaches the leading plumbing and heating contractor-dealers, consulting engineers, wholesalers and their salesmen, manufacturers and their salesmen, manufacturers' agents, etc. Complete A.B.C. circulation breakdown furnished upon request.

★*Advertising* RATES

Rates for advertising space in DOMESTIC ENGINEERING start at $40 per insertion. For full information, write to DOMESTIC ENGINEERING.

In WAR

the plumbing and heating industry has proven itself an ESSENTIAL industry. It is an industry which offers an annual market of over one billion dollars. The transition of American life, from a peace-time to a war-time basis, has found plumbing and heating even more essential to maximum war production than it was to the peace-time standards for which we are fighting.

The performance of the plumbing and heating industry during the past months stands as evidence of its vitality and its adaptability to new conditions. This performance is suggestive of the possibilities inherent in the plumbing and heating industry, not only for today, but in the coming post-war period.

New Materials such as plastics, plywoods, and alloys, which have been developed for war; hitherto limited but common materials such as aluminum and magnesium, which will be available on a vastly expanded basis; new concepts in living standards and building construction . . . these, and other vital factors to be found in the post-war period will meet a ready application and a fertile

In PEACE

DOMESTIC ENGINEERING Magazine and DOMESTIC ENGINEERING CATALOG DIRECTORY, these are your first and most important approach to the plumbing and heating market.

DOMESTIC ENGINEERING CO.,

As In Peace...

market in the plumbing and heating industry. DOMESTIC ENGINEERING Magazine and DOMESTIC ENGINEERING CATALOG DIRECTORY constitute your first and most important approach to this market. These publications are not only the leading peace-time media in the plumbing and heating industry . . . they have maintained and increased their positions of leadership under rapidly changing war conditions.

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Your planning for today under war conditions and your planning for the peace, in connection with the plumbing and heating market, will not be complete unless it includes full use of the services, reader acceptance, and other facilities available through DOMESTIC ENGINEERING Publications.

As In War!

For full details to assist you in your post-war planning . . . as well as to assist you under present war conditions . . . write to

1900 PRAIRIE AVE., CHICAGO, ILL.

1943
CATALOG DIRECTORY

★ *War-Time* COVERAGE

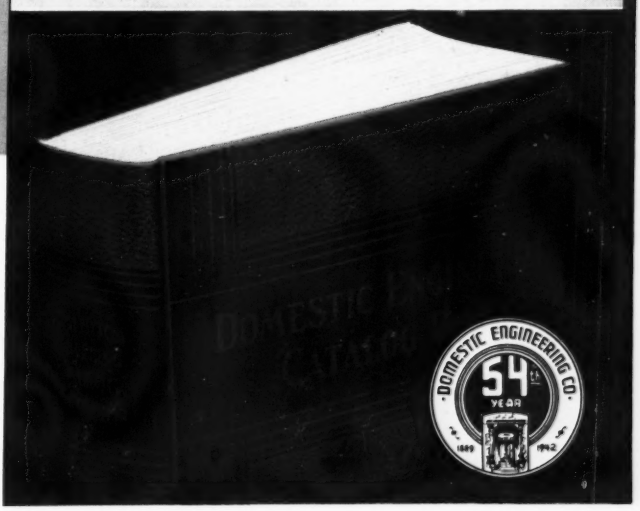
In addition to its regular circulation, DOMESTIC ENGINEERING CATALOG DIRECTORY is distributed to War Buyers and Specifiers in Navy Yards, Ordnance Plants, Industrial Plants engaged in war and essential civilian work, Coast Guard Stations, Air Fields, Ship Yards, Cantonments, etc. Basic circulation covers the buyers and specifiers among the top ranking wholesalers, consulting engineers and contractor-dealers who have the high priorities in the plumbing and heating field.

★ *Soon* READY

The new 1943 edition of DOMESTIC ENGINEERING CATALOG DIRECTORY will soon be off the presses and ready for distribution. The great number of changes in products, lines and materials obtainable under war-time conditions . . . the great number of new Victory lines . . . all of these are reflected in this new edition. DOMESTIC ENGINEERING CATALOG DIRECTORY will bring up to date the men with the plumbing and heating priorities. It will place at the disposal of all buyers and specifiers in the industry, the purchasing and specification information which they must have to determine sources of supply, to write specifications, and to make purchases. It will be indispensable both to those directly connected with the war effort and those concerned with essential civilian services. It will play an important part in the growing post-war planning.

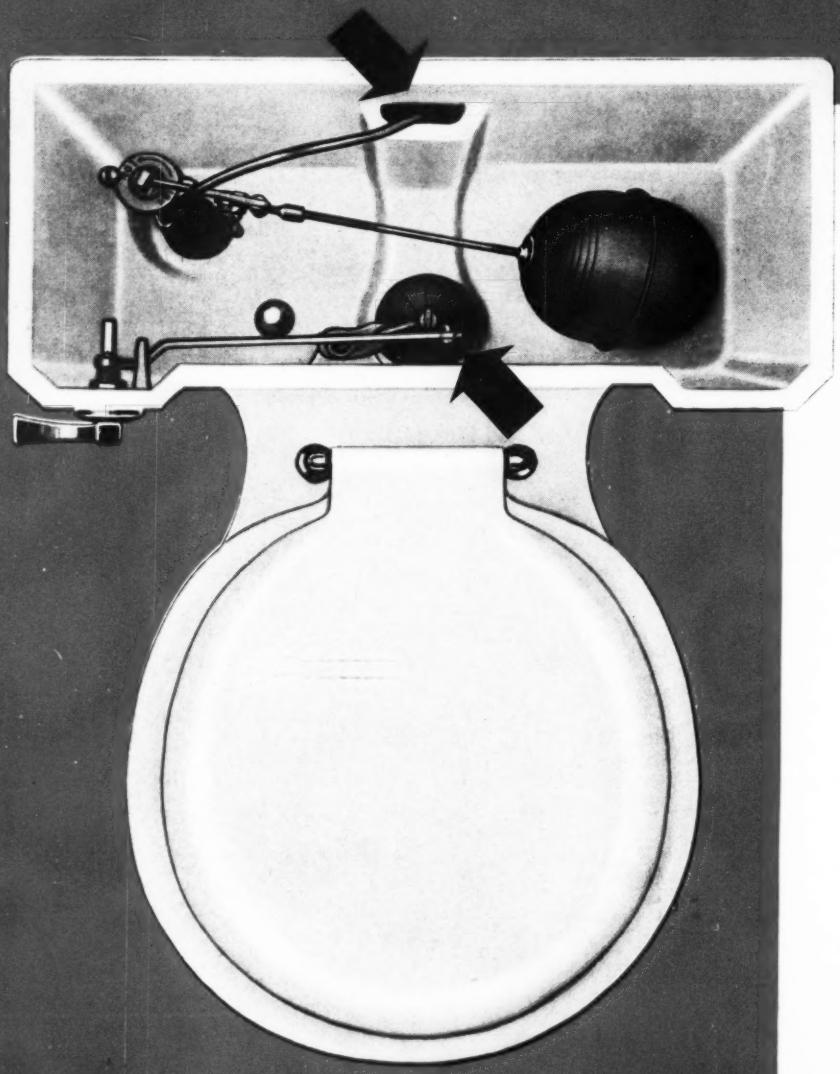
★ *Pre-Publication* OFFER

Copies of the 1943 edition will be available at the regular price of $7.50, transportation prepaid. Special pre-publication price . . . $5.50. This offer good only for a limited time and when accompanied by remittance. Further details available upon request.



This ELJER *"First"*

HAS ADDED MEANING NOW



China Overflow and valve seat save trouble . . . but that's not all!

Six years ago, Eljer's design leadership produced the integral china overflow and ground-in valve seat which are now famous features of Eljer closets.

Originally developed to eliminate leakage and noise caused by corrosion of conventional metal parts, this Eljer "first" now has even greater importance. Making the overflow and valve seat of china conserves strategic metals for military use.

This is one additional reason why Eljer closets will appeal to persons responsible for government building contracts.

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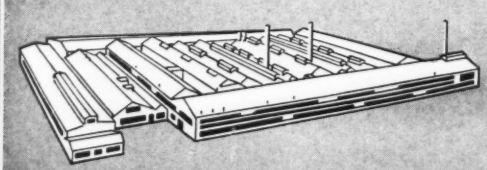
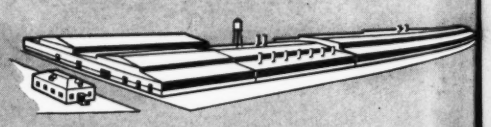


PLUMBING FIXTURES ARE OUR EXCLUSIVE BUSINESS

. . . 15 acres of it!



Thanks:

We could not permit this (subscription) to expire after having read Domestic Engineering for 41 years.

M. J. Orr,
Sheridan, Wyo.

Between Ourselves

Ideas . . . Ideals . . . Oddities . . . of our industry's month

Redistribution

To the Editor:

Thank you for your recent letter, and for the copies of your publications. You are doing a fine job, indeed, in your coverage of the home front.

Your cooperation can be more important to us now than ever before. The news during the past few days makes it apparent that substantial and increasing numbers of United States forces are now engaged in operation against the enemy.

The effectiveness of their operations will be determined, to an important degree, by the adequacy of equipment and ammunition. It seems obvious that demands for munitions and other implements of war will be on the increase.

Thus, the flow of critical materials from idle and excessive inventories to war use must be greatly accelerated. This means that anything you might see fit to print in the future which can impress industry further with the details —and urgency—of complete and immediate cooperation in our recovery programs, can be of major help in accomplishing our objectives.

C. R. Baxter, Col., A. U. S.
Chief
Materials Redistribution Branch

● **See Washington section for details of the Government's program to get materials to the places where they are needed.—Ed.**

● ● ●

Grounding Problems

To the Editor:

The American Research Committee on Grounding has been a pretty busy body of late, what with "transite" mains, "saran" water piping, plastic valves and other impediments to grounding circuits on household water piping, and the materials for artificial grounding being on the prescribed list or unavailable for other reasons. Thousands of burglar alarms all over the country have been thrown out of kilter, broadcasting people had to step lively, and plumbing repairs have frequently played "hob" with bell ringers, radios, telephones, etc.

A. R. McGonegal
Daytona Beach, Fla.

● **Mr. McGonegal is editor of the News-Letter of the American Society of Sanitary Engineering. In the November issue of the publication, he asked for cases where a mechanic was burned or shocked, due to the grounding of electric wires to gas or water pipes.—Ed.**

● ● ●

Small World Dept.

To the Editor:

The November issue of Domestic Engineering is indirectly responsible for bringing about this letter. I was making a hurried, first inspection of it shortly after it arrived, and mentally remarking of the valuable source of information it is to me, when I was literally startled to find myself staring at a picture of my brother, the main street of my home town, and two of my uncle's trucks. This of course wouldn't be quite so startling if I were not in this present location and doing the work that I am.

Just as are many other men who are in the service, I am doing work other than what I would consider as a following. I am, however, satisfied with the work because of its educational value, and besides it is where Uncle Sam has decided I can be of the most service.

However, my heart is in the plumbing and heating industry, and this is the point I want to bring out. Since shortly after I received my first issue of Domestic Engineering, I have been able to understand more clearly what a widespread, organized industry this is, and of the vast opportunities it holds. Domestic Engineering is keeping me up-to-date on the achievements, the problems, etc., and even the headaches, that men of the profession are being confronted with in the present war period, and the solutions they are using for these problems. Now there may be others, but I truthfully admit, I know of no other source where I could obtain the information in such a compact manner.

The books which I ordered and received, upon your recommendations, are indeed the books I need to give me the necessary basic theory. There are others that I still want, and intend to get before (as Lieut. Ray Tanck states in the letter you published in the November issue on page 35) I am replaced by one of the Navy's WAVES; which is quite potential, and earnestly hoped for in the very near future.

May I assure you that you have another life-long subscriber.

Merritt Yorgey
Advanced Base Aviation
Training Unit
U. S. Naval Air Station
Norfolk, Va.

Peter M. Munn, secretary of the Plumbing Contractors Assn. of Chicago, receives a salute from the bagpipers at the dinner in honor of his golden service anniversary with the Association. Pres. Robt. A. Murphy is seen in background. Report of the event will be found elsewhere in this issue

MAIN LIBRARY FE

Between Ourselves . . .

Simplification

To the Editor:

One of the most important functions of WPB, as you know, is to eliminate waste and to conserve the nation's limited supply of metals and other critical materials. In line with this function, we, in the Plumbing and Heating Division, are required to make detailed studies of all the products coming under our jurisdiction, to the end that only those products which are actually needed to meet minimum civilian requirements shall be produced. It is likewise our function to see that those products which are made are reduced to their most simplified forms and use the minimum practicable amount of metal and other critical materials.

Along these lines numerous simplification and standardization surveys have been made by the Plumbing and Heating Division. In those cases where highly technical problems are involved, we have often requested and obtained the services of the Division of Simplified Practice, National Bureau of Standards, U. S. Department of Commerce. National Bureau of Standards' work is very thorough and their surveys are usually based on numerous conferences and correspondence with a well-balanced group of manufacturers. Practically all Simplified Practice Recommendations proposed by the Bureau of Standards carry the approval of a majority of the manufacturers with whom they have consulted.

The Plumbing and Heating Division uses the Simplified Practice Recommendations proposed by the Bureau of Standards as a basis for the simplified practices which may be written into any limitation order. Before such limitation order is issued by the War Production Board, it is usually presented to an Industry Advisory Committee for their criticism and approval. The actual issuance of a limitation order containing a simplified practice requirement represents the combined efforts of the War Production Board, the National Bureau of Standards, and industry.

Conservation Object

The War Production Board, of course, cannot concern itself with all of the simplification or standardization work of the Bureau of Standards, since our only reason for requiring simplified practices is the conservation of critical materials. Unless a simplified practice provision can be justified on the grounds that it conserves material, either through a change in design or through eliminating duplicating inventories, it will not be approved by the WPB Clearance Committee, and, therefore, will not be issued.

The men in the Bureau of Standards with whom we have had most contact are Mr. Edwin W. Ely, Chief, Division of Simplified Practice, National Bureau of Standards, U. S. Department of Commerce; Mr. George Schuster, of the same Division, and Mr. I. J. Fairchild, Chief, Division of Trade Standards, U. S. Department of Commerce.

Ronald Allwork, Deputy Director
Plumbing and Heating Division,
War Production Board,
Washington, D. C.

● **There has been some confusion regarding the work of the Plumbing and Heating Division on simplification of plumbing and heating products in relation to the work of the Bureau of Standards and other Government divisions which deal with standardization. The above letter by Mr. Allwork is published in an effort to clarify this situation.—Ed.**

Home Front

To the Editor:

The health of the nation on both the home front and on the war front is a real priority. Our national health must be protected if the full energy of the American people is to be available to support the all-out war effort.

Sanitation and health, inseparable in normal times, are doubly partners now that the tense living of war is upon us. So much depends on the productive efficiency of our war industries and their employees that every effort to safeguard them is of the utmost consequence. There is constant need for ever keener vigilance to keep this personnel and their dependents off the sick lists—to reduce the appalling total of man-hours lost through illness. Over the years, the national average has been one-sixth of our total income sacrificed to illness.

When this is translated into terms of the intensified war production, the slowdown on one-sixth potential productive

(Continued on Page 66)

How Many Range Boilers in Picture?

Queens, N. Y., salvage depot at the site of an old world's fair parking lot. Numerous range boilers, radiators, etc. show how importantly the products of the plumbing and heating industry swell the nation's scrap piles. Considering the photo from another angle, the contractor-dealer is inclined to wonder how the former owners of these range boilers are obtaining hot water. Vital as is the need for scrap, hot water is also vital and national health can be hazarded by lack of repair and replacement products. (See Mr. Mendelson's letter above and the good news in its footnote)

Now that Fuel is Rationed— the Nation's HEALTH and COMFORT depend on you to—

KEEP BOILERS 100% EFFICIENT

THESE "X" PRODUCTS ARE AVAILABLE *today* TO HELP YOU DO THIS PATRIOTIC JOB

OTHER "X" SPECIALTIES

"X" PIPECUT OIL
Forms film on pipe threads. Keeps dies cool.

"X" PIPEJOIN
Light grey in color. Seals water, gas, steam joints and gaskets.

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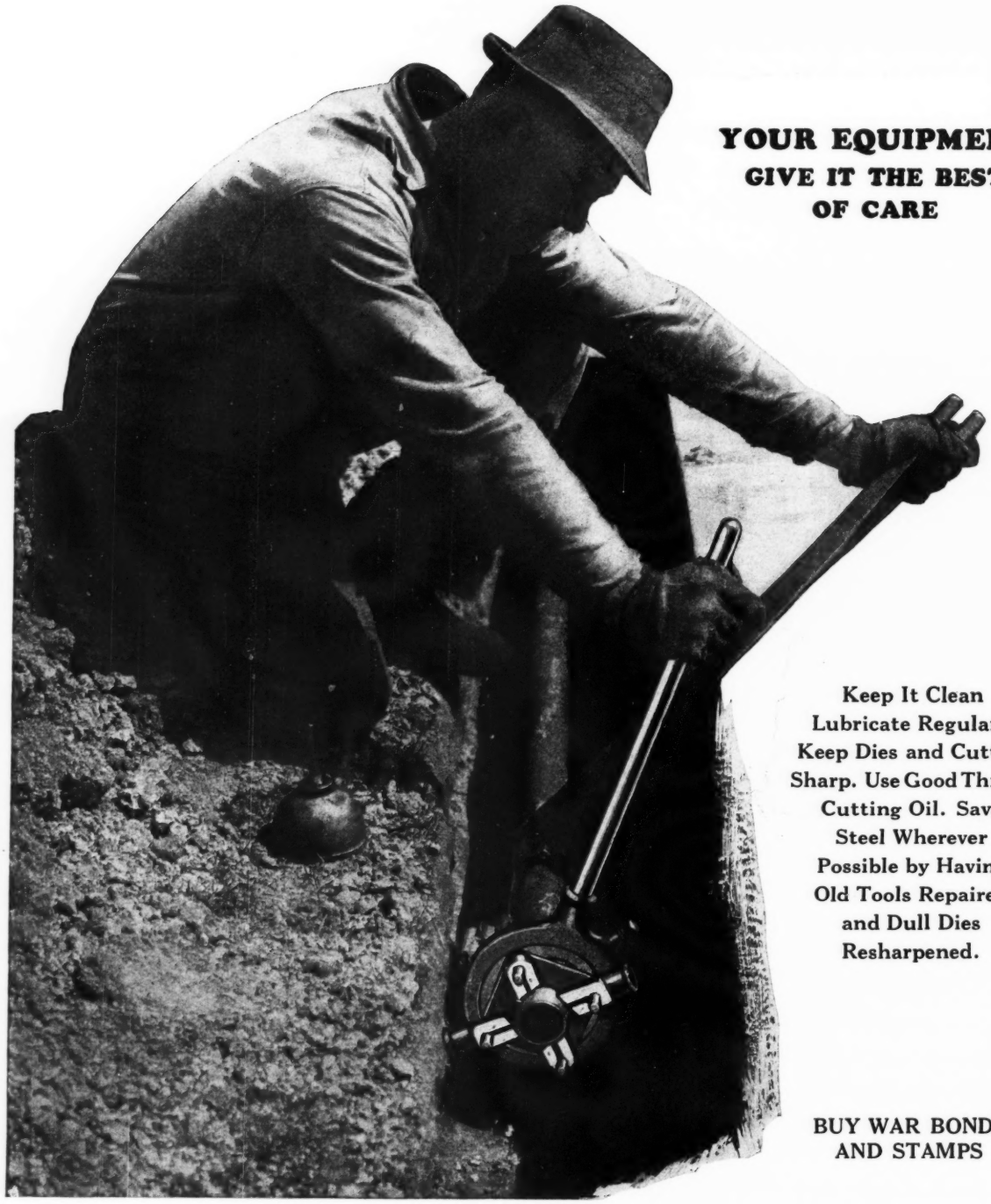


YOUR EQUIPMENT
GIVE IT THE BEST OF CARE

Keep It Clean
Lubricate Regularly
Keep Dies and Cutters Sharp. Use Good Thread Cutting Oil. Save Steel Wherever Possible by Having Old Tools Repaired and Dull Dies Resharpened.

BUY WAR BONDS AND STAMPS

"TOLEDO"
MAKERS OF FINE
PIPE TOOLS, POWER PIPE MACHINES, VISES, BENCHES

Our Industry

December, 1942

Milestone Marks Progress . . .

THERE is no hint of irony in the "warmest Christmas greetings" which our industry extends to its customers and friends in this holiday season. But these familiar greetings, as symbolized on the front cover of this issue, do have an added meaning.

The fact is that everyone will not be as warm as he likes to be. But the heating and plumbing industry—particularly the contracting branch—will do its best to see that people are as warm as possible, at Christmas and in 1943, within the limitations of their fuel oil allotments.

In years to come the heating industry will look back upon this winter as a milestone. Why? Because this year will be the first in which the public becomes fully conscious of heating systems and their real significance. No longer will heating be taken as a matter of course. Fuel rationing is eliminating the indifference with which the public formerly accepted heating.

Several of your editors are serving as technical consultants to various fuel rationing boards. The following observations, therefore, are based upon actual experiences gained in advising confused home owners on a problem which they now realize involves the health and wellbeing of their families.

Take the case of a home owner who, having less than 900 square feet of dwelling space area in his house, is accustomed to burning more than 1900 gallons of fuel oil annually. His allotment for this year is less than 1000 gallons. Yet, naturally, he wants to keep his family reasonably warm this winter . . . must do so.

When questioned, this home owner admits that drafts are constantly noticeable in the house. The need for storm windows is indicated by this, and his answers to other questions show that he will benefit by the installation of insulation.

His wife volunteers the information that night temperature is kept at 65 degrees in living rooms because the radiators heat up so slowly in the morning. A good heating contractor is called in to rectify errors in burner functioning, in piping and balancing.

When the process is completed, the home owner realizes that he will be able to attain his major objectives of reasonable warmth throughout the winter. Second, he learns that he is saving real money as a result of these improvements, and he finds that he is much more comfortable when drafts are eliminated and proper temperature control is obtained.

When a substantial proportion of home owners in 30 of the most populous states have similar experiences and draw like conclusions, the heating industry will gain educational acceptance which would have cost tens of millions of dollars in advertising. It will, indeed, have passed a milestone.

Fuel rationing will prove that there are hundreds of thousands of poorly constructed houses in the United States which can be made comfortably habitable by the addition of weatherstripping, storm windows and insulation. It will prove that there are hundreds of thousands of inefficient heating plants which give poor and wasteful service because they have not been repaired or modernized. Fuel rationing gives home owners the incentive to do something about these heating systems.

The story of good heating is being told by *positive* example also. Take Case No. 2. This home owner, having 1,400 square feet of dwelling floor area, is accustomed to burning less than 900 gallons of fuel yearly. He will not suffer much from this year's fuel rationing because he has an extremely well insulated house and a well controlled, miserly heating plant. This man likes to talk about his heating system but he did not have a very interested audience until this year. He does now! All of his neighbors want to know how he does it so that they can copy his methods.

Public Conscious of Heating

Heating is this year's topic for back fence conversation. Mrs. Jones talks heating to Mrs. Smith. They compare their fuel allotments, of course, but more important they discuss how they will keep warm on these allotments. The heating plant improvements and efficiencies in Mrs. Jones' home are envied by Mrs. Smith. And she resolves to obtain similar comfort and efficiency.

The present job of the heating industry is clear. The first thing to do is to give Mrs. Smith as much heat as possible in this emergency within the limitation of available materials. After the war the job will be to install controls and automatic firing, to complete heating plant modernization for hundreds of thousands of Mrs. Smiths and to sell new heating systems to other thousands who have learned . . . the hard way . . . to appreciate good heating.

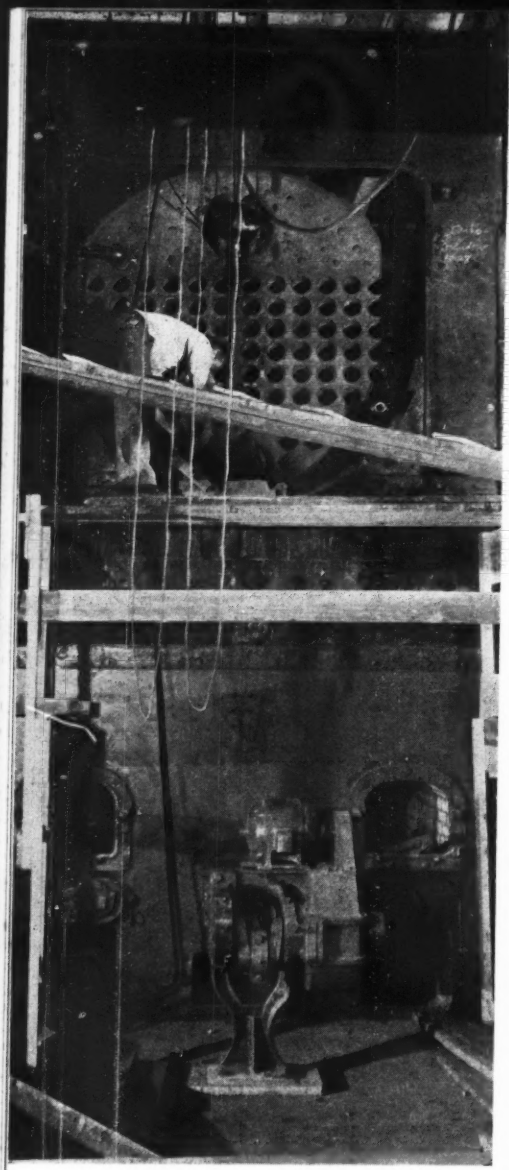
The oil burner division of the heating industry—like the entire heating industry—is passing a milestone. The first World War gave impetus to oil burning because *coal* was scarce, and that was a milestone. The second World War is making people understand, maintain and appreciate their oil burners because *oil* is scarce, and that, too, is a milestone.

It's up to the oil burner division . . . and it is up to our industry . . . to see that the lessons learned now are remembered and acted upon in the post-war era.

Toward Better Postwar Heating

RATIONING

Consumers ask assistance in fuel saving. OPA warns industrials and commercials that they will receive no rations, must convert



Boiler plant in a Washington hotel being converted from oil to coal. According to stringent rationing order, commercial, industrial and institutional owners must convert if the job can be done at a reasonable expense. Rough rule of thumb principle is that they must convert if the cost of the job will be less than the cost of oil burned in one season

HERE'S today's picture on fuel oil rationing as it concerns the heating and plumbing industry:

After extended delays, home owners are now discovering what their fuel oil allotments will be. In a great percentage of cases, these allotments are seen to be less than the amount necessary to keep homes healthfully warm this winter and most home owners do not know what steps to take first to save fuel effectively.

Home owners who do not consult their heating and plumbing contractor first, ask advice of their local rationing boards. Many boards are now set up with heating engineers or contractors serving as consultants. The advice of these consultants involves three procedures: converting the plant to coal, or increasing the efficiency of the oil fired system; reducing heat losses through storm windows, insulation, calking, shutting off part of house, etc.; operational changes which will reduce fuel consumption, such as reducing night temperatures.

In many cases the home owner asks the rationing board or the consultant for the names of plumbing and heating men who can help them. The field is wide open for all contractors in the 30 rationed states who can organize their business to take care of this patriotic work.

Several factors have thus far prevented many plumbing and heating contractors to go out full scale for conversion and fuel conservation work. The first of these is direct war work which, while it has not engaged all contractors, has created serious labor shortages in practically all areas. The second factor was an unfavorable price regulation, making sales of conversion parts unprofitable particularly at the wholesaler level — and stopping the flow of conversion equipment before it got well started.

The Price Order

This second factor has been at least partly eliminated as an obstacle by the recent announcement (see page 43) of a revised price ceiling order.

The labor shortage will ease as more and more war projects are completed; many are scheduled for completion shortly after the first of the year, some have been stopped by WPB order, and most of the remainder will be completed in early spring. But, if the contractor expects to get his share of this business he must become "headquarters for fuel savings" in December or January, even though this may involve hardships on him. A suggested program for contractors to use in becoming "Headquarters for Fuel Savings" was outlined in last month's Domestic Engineering, and additional suggestions will gladly be submitted upon request.

Various Government departments now are warning that the critical fuel oil shortage will not be conquered in time to ease ration restrictions. On the contrary, the warnings are out that even more stringent handling of individual cases may be on the way. For example, OPA ruled on November 13

Opportunity in Heating

With fuel oil rationing driving home owners and building operators to contractors' shops, fuel conservation and heating plant conversion together become the best opportunity for heating business in December and January. The following program for contractors is suggested:

1. Obtain "Headquarters for Fuel Savings" display, free, from Domestic Engineering. Get display materials from manufacturers, also, and identify your shop as conservation and conversion headquarters.

2. Study this and preceding issues of Domestic Engineering for sources of conversion and conservation equipment. Assure yourself of adequate supplies.

3. Make every effort to assure yourself of adequate labor supply.

4. Cooperate with your local fuel rationing board.

5. Make certain that, in your pricing policies, you are obeying the price regulation.

Brings Conservation Business

that "all oil burning equipment in structures other than private homes will be regarded as convertible to other fuels and therefore ineligible for fuel rations, unless satisfactory proof is furnished to the contrary."

This ruling is to be made effective at the end of the second rationing period —around January 20. It places the burden of proof of inconvertibility upon the industrial, commercial or institutional consumer, instead of upon the rationing board. A big system is considered to be convertible if such conversion can be made at a cost less than the annual fuel oil bill.

Ickes' Statement

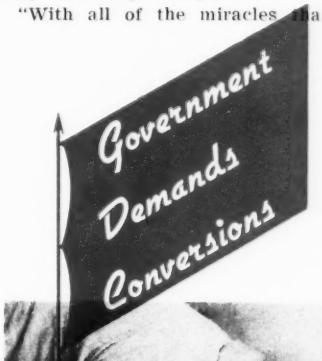
Petroleum Coordinator Ickes, in a recent statement, declared:

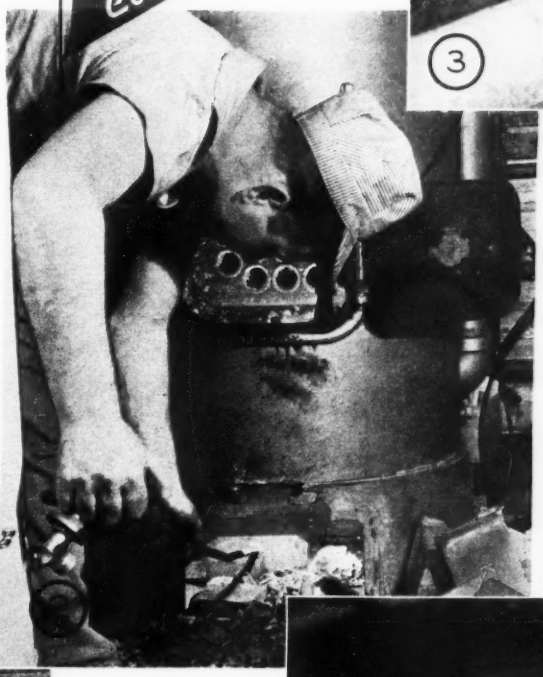
"Opening of this second front that America has hoped for and prayed for, gives every oil and gasoline user on the East Coast a chance to participate in that great operation and also puts him to a direct test.

"American oil and gasoline is fueling the African operation. What has been our East Coast supply, now must be split three ways in addition to all the other burdens of global war it bears. It takes fuel oil to move the greatest armada of all times thousands of miles over the seas from its various points of origin to Africa. Every dispatch that tells of the size of this great fleet reports the tankers that move with it.

"A large part of that fuel is from America's East Coast or diverted from supplies that might have come to the East Coast. The fuels for General Eisenhower's forces and General Alexander's Eighth Army have been assembling, for months, but what they have isn't all that they need. And what they need they will get.

"With all of the miracles that the

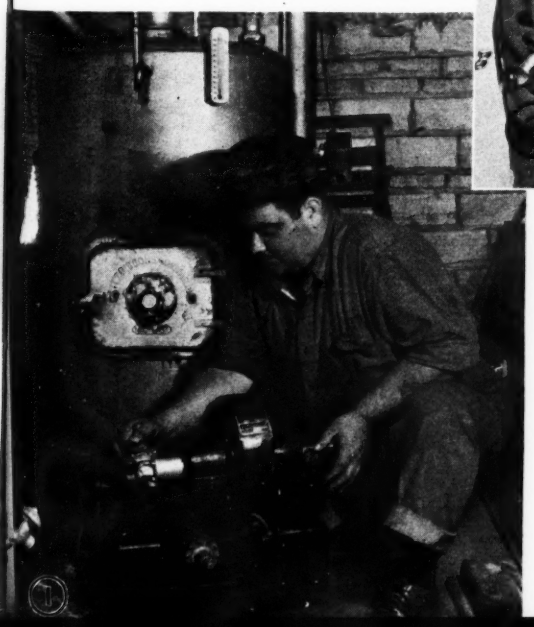




2. Photo at left shows the second step — removing the fire brick which was installed when the boiler was first converted to oil

3. (above) Replacing coal grates in the boiler. OWI says: "After inspection and checking, the furnace is then ready for use and the lucky homeowner's fuel oil problem has been solved"

Series of photos issued by the Office of War Information designed to show home owners how oil fired boilers are converted to coal



1. Photo at left shows the first step —removal of oil burner

4. (Right) Service man checking the efficiency of the family heating plant. Draft and CO_2 are determined

Today's fuel rationing picture shows that home owners face real hardships unless they can convert to coal or conserve oil in other ways. In next two months contractors have best opportunity to assist affected customers and aid war effort

The "Headquarters for Fuel Savings" sign in the window of Robert R. Morrill, Beloit, Wis., contractor. A few copies of this red, white and blue banner, with an accompanying set of pennants, are still available to readers who now hold a subscription for Domestic Engineering. Write to The Editor and state that you want to become "Headquarters for Fuel Savings"

railroads and other emergency systems of transport have performed in supplying us with oil and gasoline we still haven't got enough in the eastern states to continue even our reduced consumption. Many citizens who could have converted their heating plants from fuel oil to coal have not done so.

"We are coming into the cold months that even in times of peace bring the greatest demand for petroleum products in this country. But this time we not only have to fuel the East Coast but two other coasts overseas and a world at war. No citizen wants to burn the petroleum products that our expeditionary forces need. But nevertheless they are competing for that precious oil. This Government will see to it that its Army and Navy on the battle fronts are served first. The most direct action that any citizen can take to support those forces is to cut his own home oil consumption so that this essential to Victory goes first to where it does the most good."

(Continued on Page 57)

Senators Say . . .

HEREWITH DOMESTIC ENGINEERING continues the series of statements on fuel rationing and fuel conservation by members of the United States Senate. Contractors will find these statements give constructive viewpoints to pass along to their customers.

← Sen. W. Warren Barbour, New Jersey

To the Editor:

I must ask you to pardon me for the delay in answering your letter of October 21st. I was in Kansas for the campaign and have just returned. I am in full accord with the fuel program advocated by your publication. I am glad to give the heating industry credit for cooperating in a war-time program to help the public keep reasonably warm on reduced fuel supplies. Let me know whenever I can be of assistance.

Arthur Capper
U. S. Senator from Kansas

To the Editor:

Thank you very much for your letter of the 22nd and also for forwarding me the October issue of your magazine, "Domestic Engineering." It is certainly most informative and should prove of great aid in bringing about a better understanding of the necessity of conserving fuel for heating purposes in this grave emergency.

As so adequately expressed by national leaders in your October issue, the need of proper use of fuel is so essential to our all-out war efforts. Unless this is done properly our whole production of vital war materials may break down. Wastage of this precious fuel at this time is, in reality, an act of sabotage. Your efforts toward a greater enlightenment of American citizens on the subject of fuel conservation are, frankly, a really patriotic and vital service. I am sure that you will find that the American people will respond with a splendid degree of cooperation if they are but en-

(Continued on Page 66)

PRICE ORDER *Revision Speeds* CONVERSION

WASHINGTON, D. C., November 26.—OPA today raised permissible prices on oil-to-coal boiler conversions to bring the regulation "into line with trade practices established as the new conversion industry has grown to major proportions."

The revision to Maximum Price Regulation No. 236 was estimated to raise the over-all price to consumers about 6 per cent, "reflecting freight charges at the manufacturer's level and relieving the squeeze on the wholesale and retail levels."

At the same time, certain special new combination conversion units were priced specifically at dollars-and-cents maximum prices installed; sales of parts weighing ten pounds or less were excluded from the revised regulation (reverting to M.P.R. 188 or General Max, see Page 48). This was done because the new units do not lend themselves to weight pricing and because the sales of ten lbs. or less were found to be largely repair rather than conversion sales.

There is no change in the geographical area covered by the revised regulation insofar as it applies to regular conversion parts. However, the revised regulation does establish nation-wide prices for special combination units. The area covered by M. P. R. 236 includes the states of Connecticut, Delaware, Florida, Georgia, Maine, New Hampshire, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia and West Virginia and the District of Columbia for the sale of regular conversion parts. In other sections of the country installations are governed by M. P. R. 251, covering the construction industry.

Price on Specials

As in the original regulation, the maximum prices of regular conversion materials at the foundry is 11 cents a pound. However, the manufacturer can pass on freight cost to the extent that he passed on these costs on October 1, 1941. Thus he is required to make delivered sales where he followed this practice in the earlier period. The wholesaler's maximum price is advanced from 13¾ cents a pound delivered to 15¾ cents f.o.b. warehouse.

The maximum price for ultimate purchasers is now 20 cents a pound. This was advanced from 18 cents in line with the advance at the wholesale level. This step was considered necessary in view of the critical fuel oil shortage. The installation provision calls for maintenance of the highest March, 1942 rates, plus increases in mechanic's wages up to October 3, 1942. In the original order, wage increases were allowed only up to July 1, 1942.

Freight Charges

Wholesalers are permitted to pass on transportation charges for shipments originating at the wholesaler's warehouse and direct shipments originating at the manufacturer's foundry where the purchaser requests such delivery. Retailers may pass on any transportation charges actually incurred in the delivery of conversion parts.

Pertinent portions of the revised order follow:

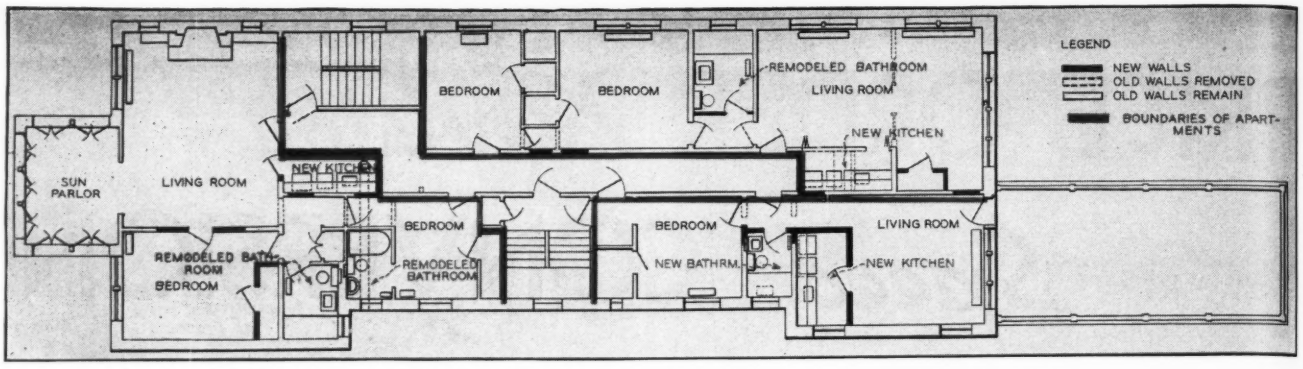
1346.155 **Maximum prices for the sale and delivery of conversion parts by manufacturers.** (a) Maximum prices for the sale of conversion parts by manufacturers shall be as follows:

Class of Purchaser	Price per Pound of Conversion Parts
Wholesalers	11c
Retailers	15¾c
Ultimate purchasers	20c

(b) **Transportation charges, services, cash and quantity discounts.**

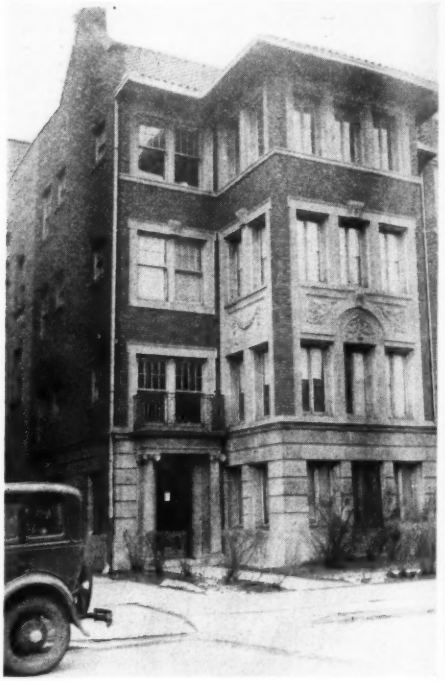
(1) The maximum prices for sales by manufacturers shall include at least the same absorption of transportation costs, and other charges, at least the same rendition of services, and at least the same extension of quantity and cash discounts as were or would have been absorbed, rendered or extended by the seller on comparable sales to a purchaser of the same class on October 1, 1941. **(Continued on Page 61)**

Extension of the big new pipeline from Illinois to the East has been authorized, but it will not be completed in time to relieve this winter's critical petroleum shortage in New England. Here is a section of the 24 inch pipeline, under construction, in Arkansas. When completed it will carry 300,000 barrels a day from east Texas to southern Illinois



REMODELING

Houses for War Workers



The drawing and two photos illustrate a job in which each large apartment in a three-flat building was made into three smaller apartments. Red lines in drawing show boundaries of new apartments. Three new kitchens and one new bathroom were installed on each floor by Ullrich Plumbing & Heating Co., Chicago. Slight changes in radiation were needed

As predicted in last month's DOMESTIC ENGINEERING, the temporary freeze order on housing remodeling was speedily lifted. FHA is again processing applications under the established and simplified P-110 method. In addition, the National Housing Agency has clarified the procedure for its recently announced program and reiterated its vast objective of 1,320,000 housing units for 1,600,000 war workers.

Added up, the various markets for housing remodeling comprise our industry's best opportunity to: (1) maintain a good volume of business for many months as industrial work tapers off; (2) dispose of fixtures and equipment now in inventories which cannot be used for other purposes.

The FHA—P-110 program has been further simplified to make priority and financing procedure extremely easy to understand and sell. The PD-406 application is short. In line with the effort to keep the entire program as simple as possible, no particular standards must be met and rigorous inspections are not required. Only qualification is that the total expenditure may not exceed $100 per room. (For example, if the dwelling unit is to consist of four rooms, the total expenditure may be $400; all of this, if desired, may be spent for a bathroom.)

Work is to be carried on as far as practicable in accordance with the War Housing Construction Standards which were discussed on Page 41 of last month's issue. These standards were not written for remodeling, however, and in the remodeling field they serve merely as a general guide.

Contractors may use fixtures, piping, etc., which are not likely to be specified for government jobs.

Loans of approximately $140,000,000, financing essential repairs and maintenance and remodeling to provide additional quarters for war workers in the designated war industry areas, have been insured thus far this year under the FHA's Title I repair loan program.

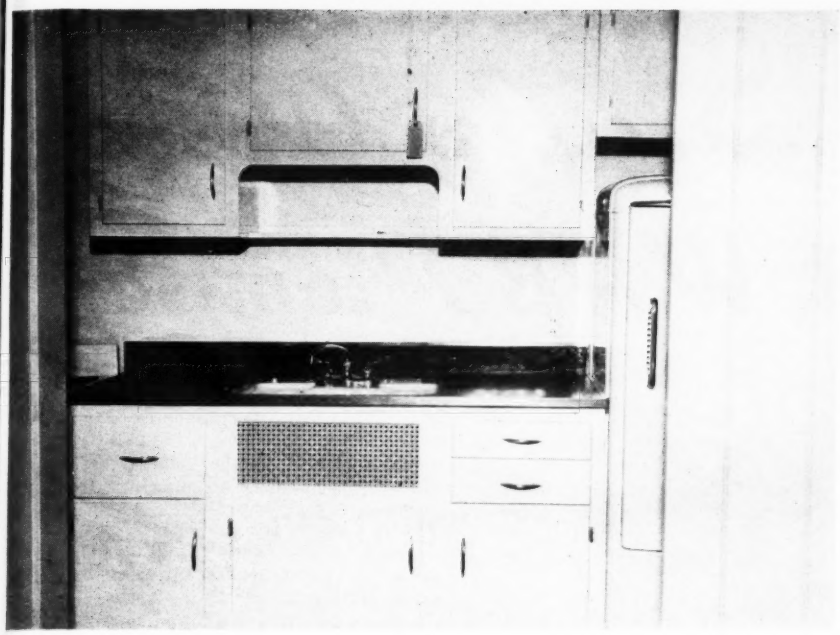
"By protecting lenders against loss of their investment, the FHA program of loan insurance has provided an ef-

Opportunity in Plumbing

Best opportunity for plumbing work in the first half of 1943 is believed to be in housing—remodeling existing structures for war workers, and aiding in the building of new houses. Here are suggestions:

1. Actively sell the FHA-P-110 method of remodeling. Since most of this work is plumbing, the plumbing contractor may in many cases take the whole contract. Keep in touch with FHA and learn the priority procedure.

2. For NHA remodeling work, get in touch with the local War Housing Center and contact HOLC and the general contractors who handle this work.



At left: One of the pullman kitchenettes installed in the building (see drawing on facing page). One unusual problem was presented by a steel beam which runs lengthwise in each ceiling; cabinets are offset to compensate for this

fective medium through which banks, insurance companies, savings and loan associations, and other custodians of private funds have been able to finance projects essential to the nation's war-time activities without sacrificing the safety of their investments," Federal Housing Commissioner Ferguson has stated.

"At the same time, by limiting the maximum interest charges on FHA-insured loans and by providing for monthly repayment of all insured obligations, the FHA program has made sound financing available to home buyers or to operators of rental housing projects for war workers on the most reasonable terms in history," the Commissioner asserted.

Under wartime conditions, he explained, the activities of the FHA are concentrated on the following principal programs:

1. Insurance of war housing loans under Title VI of the National Housing Act. Such loans are confined to projects in the designated critical housing areas which are clearly essential to meet the needs of war workers.

2. Insurance of Title I loans which finance essential repairs and maintenance necessary to keep existing dwellings in sound working order.

(Continued on Page 47)

Note for Post War Planning

1/3 of Contractors Do 90% of Business

WHILE many plumbing and heating contractors have closed their shops to work for some one else, the larger contractors—in the past two years — have enjoyed unprecedented volumes. And even though there are fewer contractors in the field, war jobs have given a greater-than-ever proportion of the business to the top third.

This observation is of interest to our inrustry because it raises a question as to who will be available to handle repairs and maintenance during the remainder of the war. It is of interest to individual contractors because it gives them some idea of the extent of the competition they will face. It is of interest to manufacturers and wholesalers from the viewpoint of potential dealerships and customers.

A DOMESTIC ENGINEERING "spot" survey of last month, covering typical medium-sized cities, revealed in concrete terms the extent of this concentration of business. It showed that the top third of the plumbing and heating contractors (35.3 per cent, exactly) will do approximately 91 (90.9) per cent of the 1942 business in in the cities surveyed.

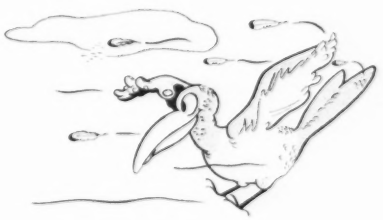
The results of this check are enlightening in comparison to preceding investigations made. Several years ago, a comprehensive DOMESTIC ENGINEERING study by field men showed that the top third of all contractors then were doing 77 per cent of the volume. The United States Census of Business for 1940 disclosed that, in 1939, the top third (12,370) did 83 per cent of the business.

In the current survey, cities were selected which were as typical as any that could be found. They are located in defense areas, but they do not have nearly so much war work as most cities of comparable size on the East Coast or in the far West. A few of the contractors handle work outside of the areas, but their volumes are more than balanced by the volume of war work in the cities which is being handled by contractors outside of the areas. Accordingly, the results can be considered conservative.

In past years, these cities have been typical in that there was one plumb-

(Continued on Page 85)

Who is this strange bird? See January issue of Domestic Engineering for the answer



REPAIRS to Get AA-1 Ratings, WPB Promises

Washington, D. C.—The War Production Board has authorized use of top priority rating of AA-1 for essential repair and maintenance. The new policy, which will be translated into action in first quarter PRP allocations, will apply to essential repairs and maintenance for productive facilities, utilities, housing and durable consumers' goods.

The announcement stated that "the action will make it possible for vital plants and factories, mines and refineries and other industrial facilities to continue effective production of both munitions of war and essential civilian goods. Communication and transportation systems, gas, oil and water lines and other services will be assured of materials to keep them performing their essential functions. Supplies and materials needed for essential maintenance and repair for housing also may be obtained."

The new policy does not mean that ratings under such orders as P-84 and P-100 will be raised to AA-1. High ratings to manufacturers under the Production Requirements Plan can be given even when the ratings manufacturers receive are comparatively low. P-84 and P-100 purchases as listed by the manufacturer, merely show what proportion of his business is repair and maintenance. However, it is evident that these listings cannot show the *degree of essentiality* of each particular plumbing and heating job; therefore, some clarification of means for telling which purchases are essential enough to command the AA-1 will be needed.

★ ★ ★

Sales of Copper

Washington, D. C., Nov. 17.—Owners of idle stocks of copper and steel, and their alloys, who sell directly to authorized war producers, as permitted by Priorities Regulation No. 13, are now required to report such sales by an amendment to that regulation, it was announced today by the Director General for Operations.

When a sale is made of copper from inventories previously reported to the War Production Board, care Copper Recovery Corporation, 200 Madison Ave., New York City, the seller must now send a copy of the invoice to that address.

Sellers of steel from reported inventories should address their invoice copies to WPB, care Steel Recovery Corporation, 5835 Baum Blvd., Pittsburgh.

★ ★ ★

Air Conditioning

Washington, D. C. Nov. 22.—Owners of large-scale air conditioning equipment who sell this machinery for use by war industries will be paid the total cost, less depreciation, but including the full cost of original installation, OPA announced today.

WPB is urging department stores, hotels, office buildings and other enterprises to sell such equipment, since new production cannot meet all the needs of war industries.

Today's action, contained in Amendment No. 55 to Maximum Price Regulation No. 136 (Machines and Parts and Machinery Services), provides that the maximum price for these sales shall be the installation costs of the equipment to the user plus the original cost less depreciation at the rate of 5 per cent per year. This is the generally accepted depreciation rate recognized by the United States Treasury in its purchases.

The conversion program calls for the purchase of this machinery by its manufacturers, who will then recondition it for the use of the plant to which WPB has allocated it. The OPA action, which became effective Nov. 27, permits the manufacturer to recover his total expenses, including inspection, dismantling, rebuilding and reconditioning, shipping and installation costs. In addition the manufacturers may add any out-of-pocket expenses incurred in such transactions plus a reasonable charge for engineering and risk and responsibility.

Manufacturers' charges for risk and responsibility and for engineering will be reviewed by OPA, as all manufacturers are required to submit a report of the transaction and the amount of profit to OPA. Unless OPA disapproves the transaction within 30 days, the price at which it is sold by the manufacturer will be considered to be automatically approved.

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C. I. Boilers

Washington, D. C., Nov. 7.—Production of low pressure cast iron boilers built to use exclusively oil or exclusively gas for fuel was prohibited today by WPB. Production of other cast iron boilers is prohibited unless they are used for essential purposes.

Today's order, L-187, defines a low pressure cast iron boiler as one designed for hot water or steam heating operated at a maximum working pressure of 15 lbs. per square inch for steam, or 30 lb. per square inch for water.

Boilers not using exclusively oil or exclusively gas for fuel can be produced only for specified military purposes, or for use in hospitals already constructed or to be constructed in the future. Both of these permitted uses are subject to authorization of the Director General for Operations on PD-704.

Production of repair and replacement parts for any cast iron boiler is not restricted by today's action.

Manufacture of boilers using exclusively gas or exclusively oil was prohibited because of the impossibility of converting these to operate with other fuels.

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Copper Mfgr.

Washington, D. C., Nov. 21.—The use of copper, copper base alloys, or alloys containing nickel, chrome or tin in tubing or tube sheet for feed water heaters is prohibited in Schedule III to Limitation Order L-154, issued today. Seamless steel tubing is also prohibited.

A feed water heater, as defined in the schedule, is a tubular heater or heat exchanger used to raise the temperature of water before it is pumped into boilers used in land installations.

★ ★ ★

P & H Division

Shortly after the announcement of the Controlled Materials Plan (See Page 54), the Plumbing and Heating Branch and other branches were raised to the status of divisions. The most important sections may later become branches. The Plumbing and Heating Division is one of several the over-all direction of which is under John Hall.

Joseph F. Wilber's title is now director of the Plumbing and Heating Division, and Ronald Allwork is deputy director. I. Q. Lord is chief of the program section; A. Mitchell, chief of the distribution section, and Lewis Smith, chief of the heating section.

Arthur L. Rayhawk who, as chief of the Production Requirements Section of the Branch, addressed industry meetings, now is assistant chief of the General Statistics Staff with supervisory responsibility for the statistical work of seven industry divisions. Since these include the Plumbing and Heating Divisions, he will continue in contact with our industry and the Division's personnel.

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End-Use Symbols

Washington, D. C., November 17—Brass mills, copper wire mills, and copper foundries are cautioned by H. O. King, director of the Copper Division that they must continue to use end-use classification symbols which were set up under Priorities Regulation No. 10.

While the allocation classification system was abolished last week, one of the terms of its abolition was the Copper Division in its allocation of copper would continue to use the end-use symbols.

To avoid delays in delivery, all persons ordering copper and copper-base alloy products from mills and foundries are warned that they must provide as much end-use information as possible, including the ACS symbol number, so that their suppliers may obtain the necessary allocation of metal from WPB to fill their orders.

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M-126 Amended

Washington, D. C., November 21—Conservation Order M-126 (Iron and Steel Conservation) as amended today, states that after November 5, no person shall process iron or steel to make any of the following items in the plumbing and heating field: steam baths of all types; gas conversion burners; gas fired boiler-burner units; gas fired furnace-burner units; oil fired boiler-burner units; oil fired furnace-burner units; cold air registers; registers and grilles; steel heating boilers of 129 sq. ft. or less of heating surface; convectors, local and unit heaters— except heat controls; hot water heaters, tanks and coils; oil burners—except functional parts; oil space heaters; pipe tube, tubing and fittings—except industrial; stokers—except functional parts; toilet floats, cistern and low water floats; and ventilators.

★ ★ ★

Housing Remodeling

(Continued from Page 45)

3. Insurance of Title I loans in the designated areas which provide additional living quarters for war workers through the remodeling or conversion of existing structures.

4. Insurance of home mortgage loans on existing dwellings under Title II.

While the areas in which National Housing Agency will carry on its home conversion program are not as numerous as the eligible areas for P-110 work, they do comprise a vast territory. Commenting upon the job to be done, NHA states: "With the National Housing Agency's conversion program fairly launched, builders and material dealers in some 75 critical war housing areas in the country may well look for a busy winter and spring. Provision, through a more complete use of existing structures, with and without conversion, must be made by July 1, 1943, for 650,000 of the 1,600,000 war workers that are expected to be called to the manufacturing front.

"Any type of improved building may be used for conversion into dwelling units — residences, apartment houses, warehouses, stores, combined business and residential property—anything that will yield one or more additional places for war workers to live."

The Government, through NHA, will lease structures suitable for conversion according to the procedure outlined in last month's DOMESTIC ENGINEERING. Materials for these projects will be given AA-4 priority ratings. According to present plans, conversion cost is not to exceed $400.00 per room.

Guide to Price Orders on Next Page!

On the next two pages will be found a new, special chart which summarizes the plumbing and heating price order (MPR 251) in detail and includes other price orders applicable to the plumbing and heating industry.

It is suggested that this chart be kept accessible for ready reference when problems regarding maximum prices are encountered.

At right is illustrated a 17 by 22 in. reprint of Maximum Price Regulation 251 from the November issue of Domestic Engineering. MPR 251 requires that sellers show a copy of the order to customers upon request. The copy printed in the November issue will suffice but, if you wish to keep that issue for other purpose, you may obtain a free copy of the reprint while the present supply lasts. If your subscription is now in effect, write for your copy of this reprint

PRICE REGULATION...PLUMBING & HEATING

PRICE Order Issued for Bldg. Jobs

Guide to Price Orders for

Max. Price Reg. 251 ... for Plumbing and Heating Contractors

Maximum Price Regulation 251 governs allowable prices for nearly all installations and repairs of plumbing and heating contractor-dealers. The contractor-dealer must have a copy of this order to show to his customers upon request. A full copy was published in Domestic Engineering for November, 1942; and separate copies may be obtained by subscribers if desired.

Lump-Sum Sales

On unit-price or lump-sum sales or jobs, take the sum of the following:

(1) Estimated cost of materials at a price not in excess of that permitted by any applicable price regulation (see facing page). (See full order for cases where contractor processes or changes the material before installation.)

(2) Estimated labor costs, provided that these rates do not exceed the cost of such labor prevailing in the area on July 1, 1942.

(3) Estimated other direct costs, including the cost of sub-contracts.

(4) "An estimated reserve for such contingencies as the seller in good faith can reasonably foresee."

(5) A margin to include administrative, supervisory, and overhead costs and profit. This margin may not exceed the contractor's highest margin similarly calculated during the base period from January 1, 1939, to March 31, 1942, on the "most comparable sale involving the same type of work." If the margin cannot be determined by this formula, take the same percentage as a comparable job in March, 1942.

The margin figured above must be supported by records or other evidence which must be available to OPA upon request.

The sum of the five items above constitutes the contractor-dealer's maximum price.

Within ten days after entering into any unit-price or lump-sum contract, the seller shall submit to the nearest OPA office a report including: (1) a complete description of the job; (2) a list of the estimated costs above; (3) the contract price.

Not less than ten days before the anticipated final settlement under the contract, a further report shall be submitted to the OPA office setting forth the actual cost on each of the above mentioned items, except the margin. The seller (contractor) may file his estimate sheets or other working papers in lieu of the reports required, provided that the information is set forth therein.

$500.00 and Less

This applies to sales or jobs which would have cost $500.00 or less in March, 1942.

The seller (contractor-dealer) determines his maximum price as follows:

Take the highest price which would have been charged for this sale or job in March, 1942 (based upon your rates for labor, material and margin which prevailed at that time). Add to this your increases in labor costs from March, 1942 to July 1, 1942. The resulting figure is the allowable maximum price for this sale.

Notes

Note 1. The most frequent exceptions to this order (MPR 251) are: (1) prime contracts or subcontracts with the War Department, the Navy Department or other government agencies which are covered by special OPA procedures (see full copy of the order itself). (2) Services and sales covered by other maximum price regulations (see facing page). (3) Construction or maintenance not on a fixed structure or project (for instance, one example would be work on ships). (4) Work pursuant to a contract entered into prior to the date of this regulation (November 5, 1942). Any substantial revision or modification of a contract is deemed a new contract and thus is applicable to the order.

Note 2. Maximum Price Regulation 251 requires that the seller have a full copy of the order which he can show to purchasers upon request. Domestic Engineering for November, 1942 contained the order in full and can be used for this purpose. If the subscriber does not wish to use his copy for this purpose, however, he may obtain a reprint of the order from this publication (while the present supply lasts). See preceding page for full details.

Cost-Plus Sales

On cost-plus sales, take the sum of the following:

(1) Materials and supplies at actual cost, but in no event at prices in excess of those permitted by any applicable price regulation of OPA (see facing page). (See full order for cases where contractor processes or changes the material before installation.)

(2) Actual labor costs, provided that these rates do not exceed the cost of such labor prevailing in the area on July 1, 1942.

(3) Other actual direct costs, including the costs of subcontracts, not provided in (1) and (2) above.

(4) A margin to include administrative, advisory, and overhead costs and profit (excluding any reserve for contingencies).

This margin may not exceed the contractor's highest margin similarly calculated during the base period from January 1, 1939, to March 31, 1942, on the "most comparable sale involving the same type of work." If the margin cannot be determined by this formula, take the same percentage as a comparable job in March, 1942.

The margin figured above must be supported by records or other evidence, and these records and evidence must be available to OPA upon request.

The sum of the four items above constitutes the contractor-dealer's maximum price.

Within ten days after entering into any cost-plus contract, the seller (contractor - dealer) must submit to the nearest OPA office a report setting forth a description of the job, an estimate of the costs and a statement of the percentage margin or, in the case of a cost-plus-a-fixed-fee contract the estimated margin in dollars and cents and an indication of the items of overhead included therein.

Note 3. See facing page for orders which may apply when products are sold other than on an installed basis.

Plumbing, Heating Industry

Other Orders Applying to the Plumbing and Heating Industry

In the boxes below are descriptions of maximum price regulations and price schedules which apply, to a greater or less degree, to the plumbing and heating industry. The descriptions are not designed to answer all questions on these orders, but merely to indicate to what products and operations the various miscellaneous orders apply.

MPR 236—Conversion

Regulates prices—at all levels—of equipment for converting oil fired boilers to coal. Prices are as follows: from manufacturer, 11 cents per net lb. from wholesaler, 15.75 cents per net lb, f.o.b. warehouse; from installer, 20 cents per net lb. Installer (contractor) may add costs, including labor, at July 1 level to total installed price. Parts under 10 lbs. not included. There are set prices for "special" grate outfits. Regulation applies in eastern states only.

All branches must keep records of transactions for inspection. Every person engaged in sale of conversion parts (including contractors) must file with nearest Rationing Board, his list of hourly prices, etc. and his ceiling prices must be posted in his business place. All sellers must deliver complete invoices to buyers.

MPR 272—Boilers and Radiators

Sets manufacturers' prices for coal and oil burning cast iron boilers, and radiators, from October 1 to October 15, 1941. Lists radiation prices in tabular form; lists boilers at 95% of prices in January and February. Also lists mandatory discounts to jobbers and others who buy for resale. Does not cover sales by contractors, on an installed basis, as these are covered by MPR 251.

MPR 188—New Items

Maximum Price Regulation 188 presents methods and formulas by which manufacturers' selling prices for new products in the building field (including plumbing and heating) must be determined. Since the formula is quite complicated, reference should be made to the full order. The order does not cover wholesale or retail prices for such new products. Manufacturers must report their prices.

Schedule 49—Steel Pipe

Sets iron and steel pipe prices at wholesale and retail levels; but is of greatest significance to wholesalers. Wholesalers may add costs of cutting and threading. Retailers are exempt from order when sold in quantities of 5 or less standard lengths of sizes larger than 3½ in., 15 or less standard lengths of 3½ and smaller. Such smaller sales revert automatically to Maximum Price Regulation or, if installed, to MPR 251.

MPR 165—Services

Applies to maintenance and repair services such as undertaken by oil burner service companies. Construction work is excepted. Maximum charges based on prices before April 1, 1942.

MPR 206—Sewer Pipe

Lists manufacturer's maximum prices, and sets discounts, for vitrified clay sewer pipe and similar products at prices approximating those prevailing between October 1 and October 15, 1941.

MPR 230—Reusable Pipe

Sets ceilings on prices which may be charged consumers for reusable iron and steel pipe in good condition. Lists such permissible maximum prices by zones.

MPR 246—Water Systems

Sets maximum manufacturer and wholesaler prices for farm equipment, including water systems, at approximately October 31, 1942, levels. Retail farm equipment prices were established in MPR 133, effective May 11, 1942.

Schedule 100—Pipe & Fittings

Sets manufacturer and wholesaler prices for cast iron soil pipe and fittings. Lists maximum prices in tabular form and lists permitted discounts upon the basis of the Birmingham single basing point system. Takes transportation costs into account.

Schedule 96—Oil Storage Tanks

Sets manufacturer prices for domestic fuel oil storage tanks at prices approximating those of October 1941 adjusted to permit distributors a reasonable mark-up. Does not govern installed cost. Prices are listed in tabular form.

GEN. MAX.

Governs over-the-counter contractor-dealer sales (not installations) for items not covered by other orders. Maximum prices based upon levels of March, 1942. Requires keeping of records. Full copy of order should be obtained and studied by all branches.

FUEL RATIONING

and the A, B, C and D's of Insulation....

"I'D like to do a complete job of insulating, but I can't afford it right now. Would it pay to insulate only the ceiling and put on weatherstripping?" . . . "Would we save any heat by insulating the sidewalls?" . . . "How about just weatherstripping my house?" . . . "Would insulating the sidewalls save an appreciable amount of fuel?" This is a typical barrage being fired at the heating contractor-dealer today. Fuel rationing has made the public conscious of fuel saving . . . and the income tax bill and other increased expenses have brought the cost factor into the foreground. The whole subject of costs, where the labor variable enters, is so confused that it is practically impossible to give a concrete example of how these costs can be figured. The general formula can be laid out, however, and local conditions fitted into the picture to make it truly representative.

The proportion of fuel savings effected by various degrees of insulating is another matter, however, and a fairly close set of figures can be arrived at. It will be necessary, of course, to select guinea pig houses for analyzing and for this purpose four houses have been chosen. All these houses have the same foundation and roof areas—20 ft wide by 24 ft deep—and they are located in a climate where the outside temperature drops to zero. The construction of all four houses is the same; they are of frame construction, plastered inside and with clapboard, shingle or stucco finish on the outside.

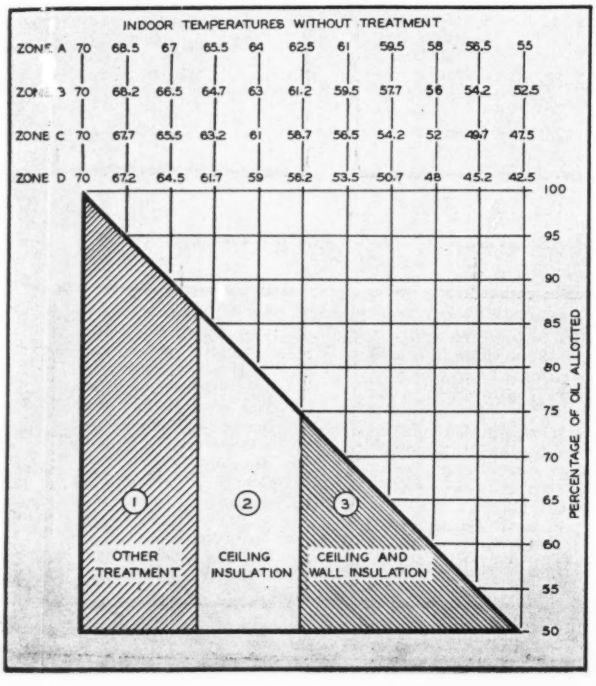
One of the houses, which we will call "A," is of one story construction and is exposed on all sides. House "B" has two stories and is also of the one-family, free-standing type, exposed on all sides. For this article, the window area in both of these houses has been assumed to be ⅛ of the gross wall area. The third house, "C," is of one-story construction but is exposed only on the front and rear; house "D" is of two-story construction and is also exposed only on the front and rear sides. Window area for these last two has been assumed as ¼ of the gross wall area of the back and front sides of the building. Houses "A" and "B" have been considered as having an air change of about 1½ per hour while house "C" and "D," with their much smaller window area have but 1 air change per hour.

On these bases we arrive at the following figures for heat loss from the houses:

Heat Loss From	House A	House B	House C	House D
Walls	14,520	29,040	5,940	11,880
Glass and Doors	11,616	23,232	7,900	15,840
Ceiling	9,600	9,600	9,600	9,600
Air change	8,100	16,200	5,400	10,800
Total Btu Requirements	43,836	78,072	28,840	48,120
Radiation, Sq Ft of Steam	183	325	120	200

These figures were secured in the following manner; the perimeter of the outside wall was taken and the area

(Continued on Page 94)



The chart at the left shows insulation which should be added to bring temperatures shown at top of chart up to 70 F

Will insulation pay when it is considered in terms of fuel saved and dollars spent? This article comes up with some of the answers

PLUMBING SHOP ON WHEELS

SERVING BIRMINGHAM, FAIRFIELD, HOMEWOOD

SHEET METAL WORKS
Stokers Installed and Repaired

24 HOUR SERVICE

PLUMBING REPAIRS PROMPTLY
IF NO ANSWER Call 8-3936

EST. 1924
6-8228

Sewers Cleared

Sinks, Toilet Bowls, Septic Tanks Unstopped With Special Equipment

Automatic Water Heaters - Any Kind Hot Water Tanks Repaired. We Repair Everything From Leaking Faucets to Modernizing Your Plumbing.

Workmanship and Materials Guaranteed

"Life Is Too Precious to Endanger It by Entrusting Plumbing to Hands Other Than Those Best Qualified"

HESTER PLUMBING & HEATING CO.

6 Trucks to Serve You — 1553 Bessemer Road

(P-87)

10,000 *Repair Jobs*

This contractor has not killed the goose that lays his golden eggs; it has a nourishing diet

This Is the Ad . . . .

Contractor Sam Hester believes that this advertisement is a prime reason for the fact that his firm has handled more than 10,000 repair jobs

HANDLING more than 10,000 repair jobs in less than two years just about entitles Sam Hester, proprietor of Hester Plumbing & Heating Company, Birmingham, Ala., to the title of all-American repair specialist.

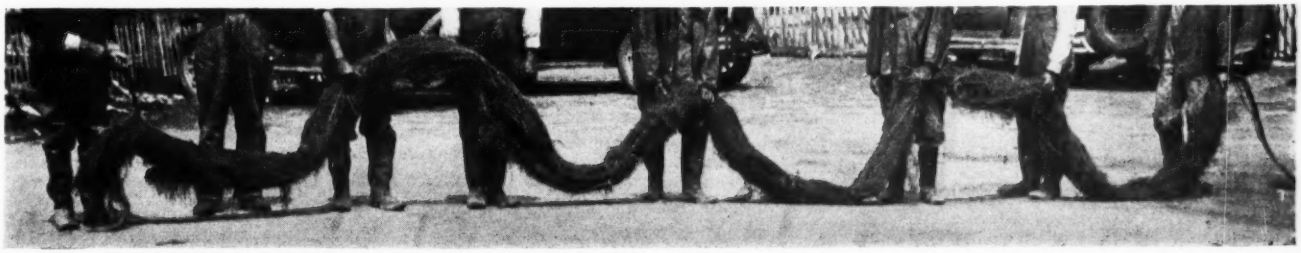
This figure includes only jobs done on a time and material basis. He handled a number of contracts also, but mostly of a remodeling nature. World War No. 1 taught him a lesson about going out after big new construction work at the expense of his repair business. He woke up after the war with practically no business. He decided not to make the same mistake this time, so has kept steadily to his knitting despite the luscious war jobs offered him. His business has grown steadily and now he employs 15 men and operates eight trucks.

Mr. Hester's specialty is unstopping sewers, drain lines and septic tanks but he covers the whole field of plumbing and heating including both steam and warm air heating. Operations are carried on from his home located on a boulevard in a suburb, and where he has several acres of ground with ample shops, garages and storage facilities.

(Continued on Page 100)

That Told of a Man . . . . Who Could Clean the Sewer . . . . or Repair the Plumbing and Heating

The picture above shows one of the Hester journeymen cleaning the drain in a drug store soda fountain. The picture below shows laborers holding one of the many tree roots which Hester's firm has removed from sewers. Boiler cleaning is another big item in this contractor's field of repair and conservation jobs



Fireplaces . . .

FUEL oil rationing and the unpleasant prospects of a cold winter have caused many heating contractors' customers to inquire regarding the advantages of fireplaces as sources of auxiliary heating. In order to determine what was what Domestic Engineering has just completed a survey among heating men and fireplace manufacturers.

The following letters discuss thoroughly the design features of three types of fireplaces and outline the characteristics of each. They show what the heating contractor can do to make his customers' fireplaces heat more efficiently and they also give the contractor a working outline of what should be done if he takes the contract for a fireplace installation.

A piece of by-product information, as valuable as other pointers, is that at least one of these manufacturers has developed a refractory grate for coal and wood burning; thus it can be manufactured and sold without priority assistance.

To the Editor:

We are pleased to take this opportunity of contributing suggestions on the operation and installation of fireplaces. The principal source of fireplace complaint is smoking and this is usually due to faulty construction. We have published material which the heating contractor may use when he is called in for an inspection.

In regard to the value of fireplaces as heating units, we are, of course, familiar with the fact that incoming air lowers the temperature in rooms other than the one in which the fireplace is located. But, regardless of this, there is no gainsaying the fact that the temperature in a room can be substantially raised by the operation of an ordinary fireplace, despite the infiltration of cold air. Certain tests competently conducted under our auspices have shown quite conclusively that an average fire in an average fireplace (32 in.) will give off some five to six thousand Btu's per hour by radiation alone.

Opinions will naturally differ regarding the proper fuel and the firing of the fuel. Where there is an unlimited supply of good dry logs, a straight wood fire laid on a good pair of andirons and with a good size back log properly placed (not jammed tightly against the back) will provide not only the maximum heat possible, but will provide it in the most enjoyable form.

However, at a time like this, when people are anxious to use their fireplaces extensively as an additional source of heat and do not have large supplies of wood available, coal can be successfully burned in fireplace basket grates and this type of fire naturally provides the benefits of a longer-lasting fire. Cannel coal gives the biggest flame and because it ignites so easily and burns so cleanly is sometimes preferred. However, coke can be burned either alone or in conjunction with cannel coal and anthracite, while a little more difficult to kindle, can be made to provide a most satisfactory fire. Anthracite is especially desirable where it is desired to carry the fire as far into the night as possible.

In the operation of any type fireplace, the maximum heat output is obtained when the damper is closed as much as possible without impeding the "draw" and causing smoking. And whenever the fireplace is not in use, the damper should be closed tightly as otherwise there will be a very large heat loss through the chimney.

One point of possible interest is that ordinary fireplaces can be converted to efficient sources of heat by rebuilding them around fireplace units such as "fresh air" types or recirculating types. Another point is that fireplace dampers are exempt from the order curtailing manufacture of various articles of iron and steel and may therefore still be manufactured on priority of A-10 or better.

E. S. Phelps, Sales Manager,
The H. W. Covert Company,
New York City.

The photo of the field stone fireplace above is a picture of pure comfort and ease. Note the grilles which cover the heat-circulating ducts

. . and the Heating Contractor

To the Editor:

We will be very glad to do what we can to answer the questions regarding the operation and heating effectiveness of fireplaces. The whole story boils down quite perfectly to the fact that a fireplace chimney flue must carry out approximately 200 cfm of air in an average size fireplace or that fireplace will smoke. Otherwise, there is not a sufficient velocity to the air passing up the flues to carry out the smoke and products of combustion.

The velocity in the average chimney flue is 300 lineal feet per minute and the average flue size is 12 in. by 12 in. This, however, is heated air which is expanded so that, in reality, the amount carried out of the building comes down to a net of about 200 cfm at 70 deg F.

This large volume of air is being drawn continuously from the building and must be replaced by an equal amount of air drawn in through window and door cracks at outdoor temperatures of, let us say, 30 deg. F. Otherwise the air pressure within the house will be reduced to such a low point when compared to outside pressure that the flue will cease to draw and will actually back-puff.

This incoming replacement air seeps in through cracks all over the house with the result that while the room where the fireplace is located may actually rise in temperature, the average readings throughout the house—that is, beyond the direct radiation from the fireplace opening—is actually reduced. In other words, in a house that is heated to 70 deg. F. the effect of the incoming cold air considerably exceeds the warming effect of the radiant heat.

This condition applies both to an ordinary fireplace and to a fireplace operating on the recirculating principle. The recirculating type of fireplace does increase the efficiency of heating because it heats by convection as well as by radiation. But little can be done with fireplaces of ordinary or recirculating construction to stop the chilling effect of the incoming cold air except to shut down the flue damper valve to the minimum point before the fireplace begins to smoke.

(Continued on Page 105)

The picture at the right shows a partially completed brick fireplace. The flue and smoke chamber are clearly visible

To the Editor:

Unquestionably fuel rationing will drive many home dwellers to their firesides this winter and equally beyond question is the fact that they will find a deal of gratification in the glowing flame. How closely results will approximate the standards for uniform residential heating recognized by heating engineers is another matter. But if, in some cases, it means no more than getting thoroughly toasted at intervals between arctic explorations in other rooms, that is som'p'n!

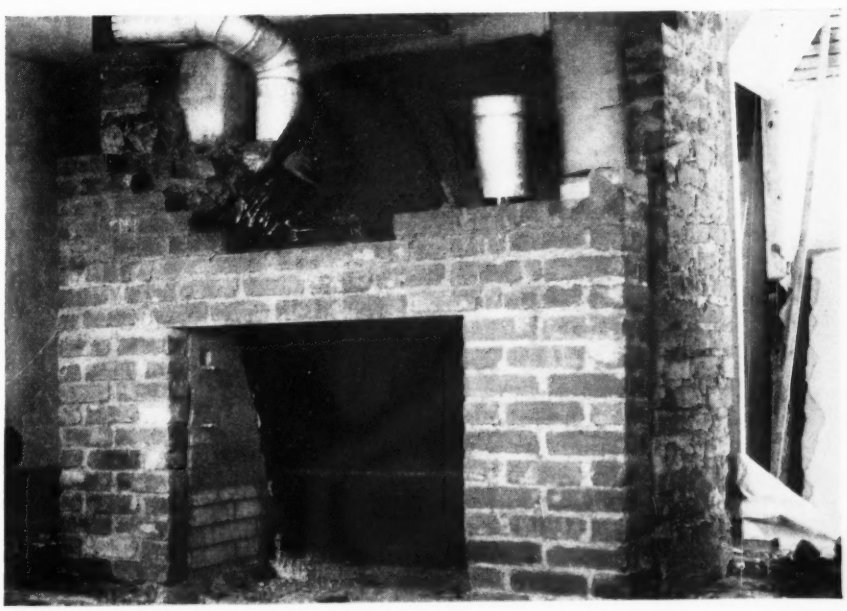
In other types of cases, and many of them, fireplace warmth will be the key to a very comfortable winter. Thousands of low cost homes are heated to a great extent by heat circulating fireplaces and there is a mass of testimony to the satisfaction of the owners.

The heat circulating fireplace is different in only two respects from a small furnace that might occupy a basement site or be located in a rear service room. It offers direct radiation, as well as indirect. It derives its combustion air from the heated area, and not from auxiliary space as in a basement. This latter factor means that there must be access for air. In occasional cases, too tight an insulating job has been known to mar the working of the fireplace. If combustion air does not filter in at doors and windows, it must enter by the only other inlet that is offered, the flue itself. This means downdraft, sluggish burning and smoke eddies in the room. One of our engineers once investigated a case where a large unit was heating a new model of small steel home and, at times, refusing to burn as it should. Opening a window a few inches brought a sparkling flame at once. Theoretically, the drawing of combustion air from the living area of the home may be a serious complaint against fireplace heating. The statement is heard that more cold air is admitted than is warmed.

The heat circulating fireplace will do a valuable job where solid fuel is the chief resource. It can be coaxed to burn the less free burning fuels with a little practice. The flame is always under the eye of the fireman, who adapts himself

(Continued on Page 97)

Fuel oil rationing and fireplaces go together like ham and eggs. It's our industry's business to make America's fireplaces help heat America's homes



CMP (Controlled Materials Plan)

Successor to Priorities

New system is designed to bring closer control of materials, to ensure balanced production of war and civilian goods, to reduce bottlenecks

PRINCIPLES of the new Controlled Materials Plan—which will govern or influence practically all manufacturing and industry—are now being clarified to the extent that an estimate of the significance of the new system can be drawn.

The new plan will control directly the fabrication of carbon and alloy steel, copper and copper alloy and aluminum. In addition, it will control other critical materials which are combined with these metals in the making of finished products.

The Controlled Materials Plan is direct allocation with a time factor added. It is *scheduled* production. Its objective is to assure delivery of materials *when needed* for manufacture of the products *most needed* for the war effort and for essential civilian needs. It is designed to provide a closer check upon raw materials than has ever been attained. The plan is designed, secondly, to fit manufacturing snugly within the limits of raw material supplies.

To understand the influence of the Controlled Materials Plan upon the plumbing and heating industry, it is necessary first to get an over-all picture of the new system.

In obtaining materials, manufacturers must work with and through the seven *Claimant Agencies* which are being set up by WPB. These agencies are the War Department, Navy Department, Maritime Commission, Board of Economic Warfare, Aircraft Scheduling Unit, Office of Lend-Lease Administration and Office of Civilian Supply. These agencies will cover nearly all production needs for both civilian and military use. The last-named agency, Office of Civilian Supply, is most important from the standpoint of plumbing and heating.

While it is expected that many details of operation, organization and deadlines of CMP will be changed as experience justifies, the long-range objective of the plan — balanced production of both military and civilian items— will remain as is.

Since plumbing and heating are recognized as essential, and since plumbing and heating will be channeled through the Plan, it is important for industry members to learn the broad outlines of the system now and to keep abreast of its functioning.

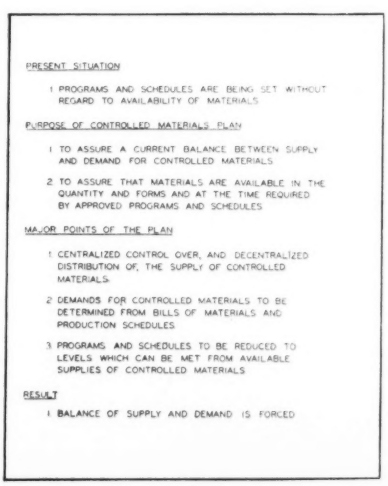
When the system is developed to an extent where actual action by our industry is indicated, Domestic Engineering will supply full details and suggestions.—Ed.

To set the plan in motion, each claimant agency will secure from its *Prime Consumers* (those who will be receiving allotments, including manufacturers of plumbing and heating items), *Bills of Materials* stating the amount of materials per unit which will be needed by them. Prime Consumers will in turn be aided in their estimates by their respective *Secondary Consumers*. When each of the seven claimant agencies has converted bills of material into the amount of each controlled materials it will need, the estimates will be submitted to the three Controlled Materials Divisions (Iron and Steel, Copper, and Aluminum). These estimates must be presented by the first day of the first month of each quarter, preceding the quarter to be covered (i.e., January 1, 1942, for the second quarter of 1943).

Complete instructions will be provided to prime (and, in turn, secondary) consumers in making out bills of materials, as they will vary greatly, according to the type of manufacture.

By the fifteenth day of the month, each controlled materials division is to inform the Requirements Committee of WPB how much of each material will be available. Then, by the last day of

Chart A—Chart contrasting present materials situation with objectives and major features of Controlled Materials Plan


PRESENT SITUATION
1 PROGRAMS AND SCHEDULES ARE BEING SET WITHOUT REGARD TO AVAILABILITY OF MATERIALS
PURPOSE OF CONTROLLED MATERIALS PLAN
1 TO ASSURE A CURRENT BALANCE BETWEEN SUPPLY AND DEMAND FOR CONTROLLED MATERIALS
2 TO ASSURE THAT MATERIALS ARE AVAILABLE IN THE QUANTITY AND FORMS AND AT THE TIME REQUIRED BY APPROVED PROGRAMS AND SCHEDULES
MAJOR POINTS OF THE PLAN
1 CENTRALIZED CONTROL OVER, AND DECENTRALIZED DISTRIBUTION OF, THE SUPPLY OF CONTROLLED MATERIALS
2 DEMANDS FOR CONTROLLED MATERIALS TO BE DETERMINED FROM BILLS OF MATERIALS AND PRODUCTION SCHEDULES
3 PROGRAMS AND SCHEDULES TO BE REDUCED TO LEVELS WHICH CAN BE MET FROM AVAILABLE SUPPLIES OF CONTROLLED MATERIALS
RESULT
1 BALANCE OF SUPPLY AND DEMAND IS FORCED

Boss of CMP . . . .

Left: Domestic Engineering photograph of Ferdinand Eberstadt, WPB Vice Chairman on Program Determination and Chairman of the Requirements Committee. As overseer of the Controlled Materials Plan, Mr. Eberstadt becomes one of Washington's most important figures from the standpoint of industry and business. He is shown here addressing the business press, in Washington, from the charts which are reproduced below.

the month, the Requirements Committee is to make allotments to each claimant agency, after carefully considering the amounts requested by the agencies, the available supply and the essentiality of the request.

When a claimant agency receives its quota of each controlled material, it will receive applications from its prime consumers, in which such prime consumers will show the amounts of materials (in as much detail as is requested) for each of their projects. Consumers will then be given allotments in proportion to the supply available and the essentiality of their requests.

Consumers' applications, known as Requests for Allotment Numbers, must state the type of procurement item they expect to manufacture, the number of units of material needed, and the value. Then, when a prime consumer is awarded an allotment from an agency, he is given an allotment number which, in addition to a letter symbol for the agency, will include digits showing the claimant agency, program, schedule and the month in which shipment is authorized. These same numbers will be passed on by prime consumers to their secondary consumers. Thus, in case of error or delay in schedule, it will be quick and simple to find the bottleneck.

In general, the responsibilities of the prime consumer are:

(1) Supplying the various claimant agencies with bills of materials, according to their instructions;

(2) Developing with the claimant agency the quantity of controlled materials required month-by-month to carry out the program or schedule authorized by the agency;

(3) Dividing between his immediate secondary consumers the allotment of controlled materials made to him by the claimant agency so as to provide each secondary consumer with the quantity of controlled material required in carrying out the appropriate portion of the authorized program;

(4) Generally supervising the division of controlled materials by his secondary consumers among *their* respective secondary consumers;

(5) Developing revised requirements for controlled materials and adjusting outstanding allotments with his direct secondary consumers in cases where the claimant agency revises a production program or schedule previous approved or revises specifications;

(6) Assisting the claimant agency in investigating to determine errors in division of allotments if records show over-ordering against the prime consumer's allotment number;

(7) Maintaining accurate records of all allotments received, and the subdivision to all direct secondary con-

(Continued on Page 76)

Chart B—Chart showing the principal government agencies and other factors which are of greatest importance in Controlled Materials Plan

Chart C—Chart showing how bills of materials flow to controlled materials branches, and how demand is fitted to material supplies

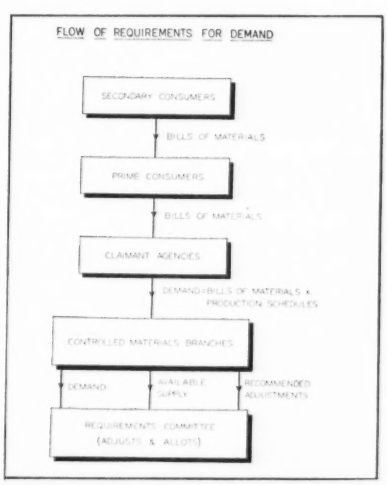
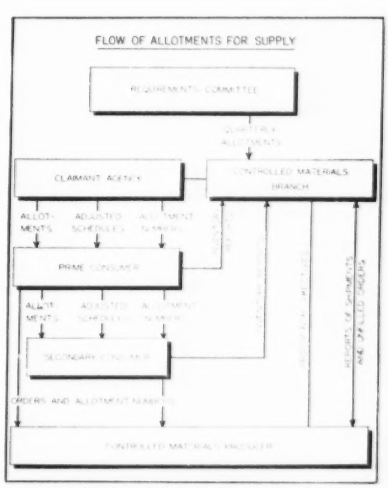


Chart D—Chart showing how materials are allotted from claimant agencies to prime consumers and secondary consumers. Note functions of branches



Water Spray versus Sun Heat

The possibilities of roof spray systems for supplementing air conditioning in industrial buildings, now that equipment is hard to get, are discussed here

By A. B. Toppen, President, Water Cooling Corp.
New York City

THE blackout type of industrial building produced by the war situation has one very serious objection, in that the great expanse of flat roof absorbs the solar heat to such an extent that the operating efficiency of the personnel within the building is seriously affected. This objection to blackout buildings which is almost non-existent in England owing to different climatic conditions, can of course be taken care of by an air cooling system, but the size of such a system for a building covering say 500,000 square feet is costly and requires large amounts of refrigerating machinery thereby putting an additional strain on an already overloaded industry.

Some authorities having recognized the handicaps of roof heat absorption, tried to take care of it by making a roof level and carrying 2 in. of water on top. While this helps it is, under the best conditions, less than half as efficient as a spray canopy. It is not efficient in a prolonged hot spell, as the evaporative area of the surface water is not sufficient to prevent the water heating up. Other objections to such a roof are that in case of heavy rainfall it does not drain properly and furthermore there are possibilities of the stagnant water producing mosquitoes.

Quite often in the past, where it was desired to re-cool water for Diesel engines or other fairly high temperature equipment, a spray cooling pond was placed on a factory roof, thereby getting good exposure for the re-cooling of the water. An attendant benefit was that the space below such pond did not become heated by the sun. For such work nozzles were designed to throw 25 to 50 gpm of water 8 to 10 feet in the air at about 7 lb. pressure. The fall of water from these large nozzles gave considerable wash on the roof, with the result that a special basin of steel, wood or concrete had to be provided. Furthermore owing to the height of the water spray, louver fence had to be built around the pond to prevent the spray from becoming a nuisance. Many of these installations have been made and they have given satisfactory results for what they were intended, i.e., re-cooling of industrial water.

Some years ago a factory condition occurred where the temperatures in the summer afternoons became excessive, and therefore, the use of small nozzles for sprinkling the roof and keeping the temperature down was decided upon. The primary point of design of a spray canopy to prevent the solar heat from entering a building is almost directly opposite to that of a spray pond where in order to reduce construction expense and save space it was customary to load these ponds to about 1¼ gallon of water per square foot per minute. The governing feature of a spray canopy is to have a system which will give the best practical covering with the least amount of water, keeping in mind the fact that the system should operate 10 hours a day for months at a time. (War conditions may make it advisable to operate 24 hours per day).

It should put no additional wear on the roof, and the spray loss must be kept to a minimum. The result was that the nozzles were designed with removable caps for easy cleaning to give a coverage of about 15 feet diameter with less than 1 gallon per minute when spraying at 7 lb. pressure, height of spray being not over 30 in., thus keeping the spray below the usual building parapet. The question of having a roof spray system exposed to the prevailing wind, which is so important to the cooling pond where the aim is to remove the greatest possible number of Btu's from the water, is of little importance with a roof cooling system where the aim is to have the solar heat used up in evaporation before it enters the building.

The result of the various investigations was the installation of a spray canopy to cover the roof of a new 400,000 square feet blackout building on Long Island, for one of our prominent aeronautical companies. Air conditioning contractors and engineers figured that a proper canopy of spray over such building would reduce the refrigeration tonnage required from 1080 without roof spray canopy to 800 tons with a spray system. Figuring the refrigeration equipment at $200.00 per ton showed a saving (280 tons at $200 per ton) of $56,000 against the estimated cost of the roof spray system of $20,000—actual cost was less. Maintenance is practically nil and operating cost is very slight, as the system operates with waste water from the condensers or cooling coils at a nozzle pressure of 7 lb.

Other important facts were that such a spray canopy increases the life of the roof covering as it stops excessive expansion and contraction of roofing material and also stops the loss of the more volatile oils which are driven off from an asphalt by a hot sun.

With the particular building to be discussed below there was from 1.1 to 1⅓ gpm of water per nozzle available, and therefore special nozzles to handle these amounts of water were designed as follows:

(Continued on Page 99)

Save Fuel with Conservation

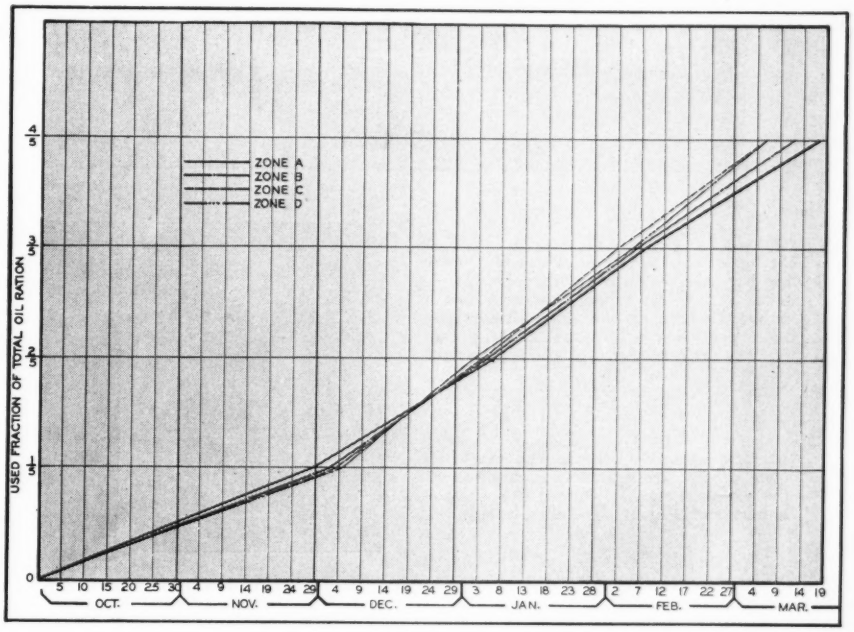
Fuel Conservation and Conversion

(Continued from Page 42)

An example of the way the heating industry is cooperating with the rationing program is provided by the Illinois Chapter, American Society of Heating and Ventilating Engineers. Members of the Society serve as fuel conservation consultants to the scores of War Price and Rationing Boards in the Chicago area. The ASHVE "War on Fuel Waste" booklet is used as the basis for the advice which these consultants give fuel users who seek means of conserving.

John Howatt, chief engineer for the Chicago School District, is chairman of the engineering advisory committee which is sponsoring this work.

The December 14 meeting of the Chapter will be devoted to fuel oil rationing problems. Matt S. Kilgallon, who heads the fuel oil rationing activities in the area, will be the principal speaker, and Chapter members and others who have been working in an advisory capacity with local boards will also talk. The meeting will be held in the Merchants and Manufacturers Club, Merchandise Mart.

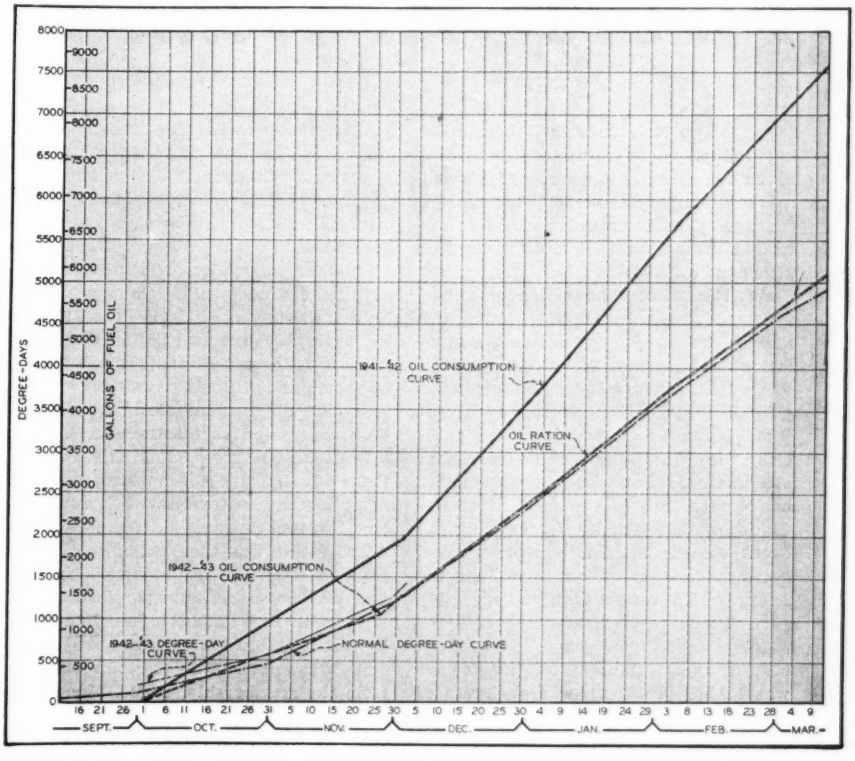


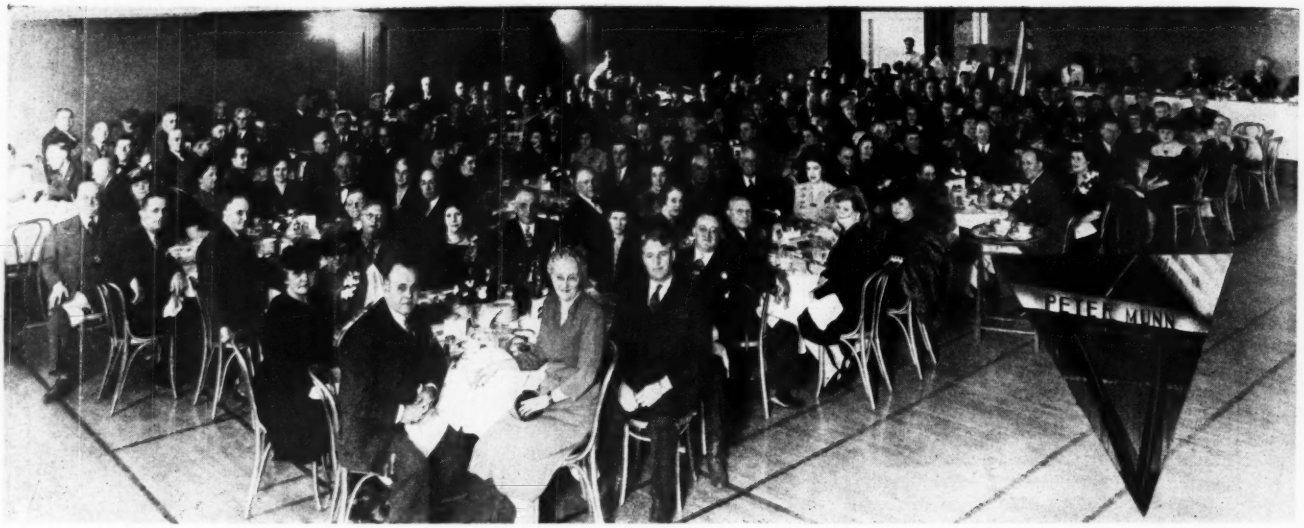
Self-Rationing for Your Customers

Fuel oil rationing is largely self-rationing, since the user must himself husband his allotment to have heat throughout each period and the entire winter. The two charts at right are presented to facilitate and make possible this self-rationing

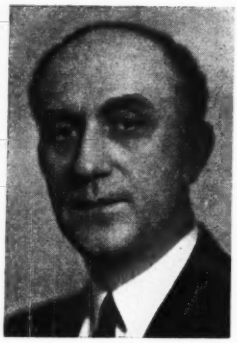
The top chart is a curve showing cumulative degree days, for each of the four thermal zones, from October 1. On December 2, end of the first heating period in Zone B, the home owner should have used no more than one-fifth of his total year's allotment. The procedure is to find the date on the lower line, project upward to the curve and then draw a horizontal line to the left to determine the maximum amount of oil that should have been used at the given date

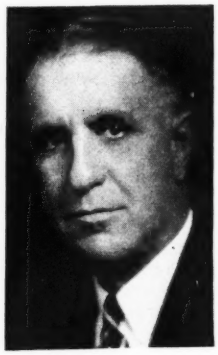
The bottom chart (right) shows the actual performance of a given building in thermal zone B. In this, curves show last year's consumption, the degree day curve, the curve of permitted usage as set by the allotment, and the actual consumption so far this year. Installation of storm windows, the shutting off of rooms, and the installation of controls combine to cut consumption radically from last year's rate





At top of this page and at top of the facing page are shown composite photographs taken at the November 7 dinner dance in honor of Peter M. Munn's fiftieth anniversary of service to the Plumbing Contractors' Assn. of Chicago





At right—John J. Calnan, who was chairman of the arrangements committee for the event; Peter M. Munn, the guest of honor, and Rupert J. Weber, toastmaster

Peter M. Munn Day

On November 7 the plumbing industry congratulated Peter M. Munn upon his half-century of service to the Plumbing Contractor's Assn. of Chicago. The congratulations were extended in the form of a dinner-dance, attended by 500, in the Lake Shore Club. Dozens of industry leaders made short addresses praising Mr. Munn and he was the recipient of a scroll, a resolution of honorary life membership, a fine watch, a purse and numerous other gifts.

Mr. Munn was honored, at this gathering, for the qualities of sincerity, steadfastness and leadership which he has contributed to the welfare of the Chicago Association. Guests at the event were inclined to draw a parallel between his career and our industry itself, which remains an indispensible part of modern civilization.

John J. Calnan, whom Mr. Munn served as assistant when the former was NAMP president, was chairman of arrangements and made the opening address. The present president, T. W. Merryman, who also is assisted by the Chicago secretary, made one of the principal addresses. Among the long list of speakers were Wm. J. Brookman, Illinois secretary, who handled many of the arrangements; Chicago Pres. Robert E. Murphy; Illinois Pres. Joseph E. Doyle; Joseph I. Elliott; Chas. E. Barrows; Joseph Piraux, Jr.; Jos. W. Cannon, and Illinois Auxiliary Pres. Mrs. N. J. Mergenthaler. Rupert J. Weber presided as toastmaster.

Born in Glasgow, Scotland, in 1875, Peter Munn came to America in 1891. After a year, he went to work as office boy for the Chicago Master Plumbers Assn. (as it was then called). He became assistant to Alexander W. Murray and his successor, Sam Smith. When Mr. Smith retired Mr. Munn took over the full job. In recent years the Association has not had an elected secretary from the membership, so Mr. Munn has the title as well as the work of the office.

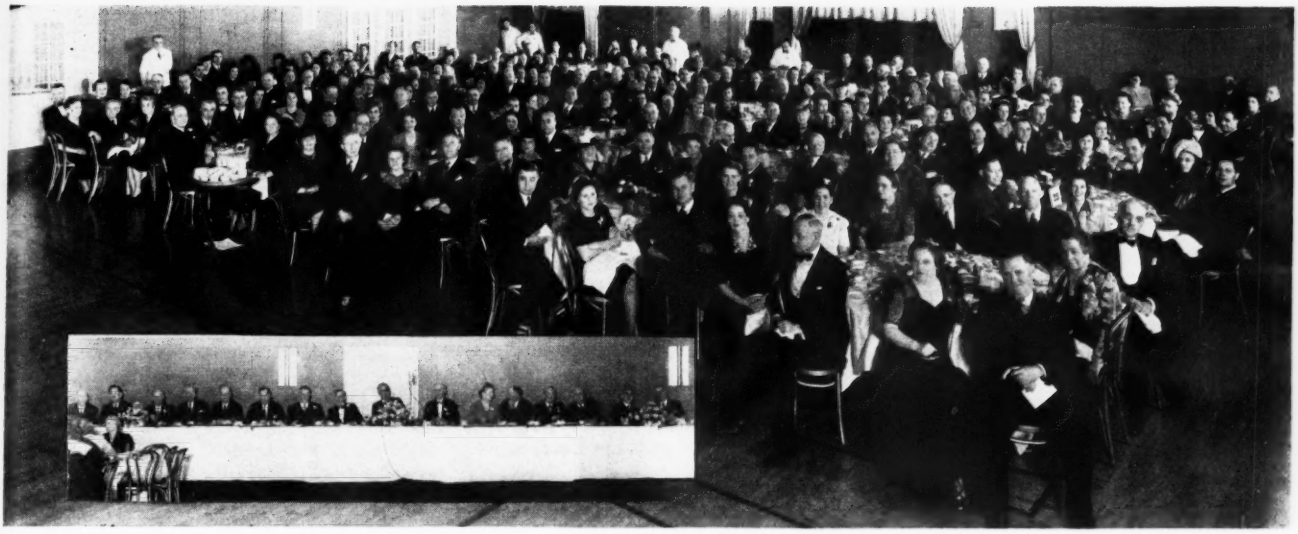
After fifty years, he's now getting his second wind.

Gas Order

Washington, D. C., November 13—Faced with gas shortages in many parts of the country this winter, WPB today tightened control over delivery of natural and manufactured gas by revising Limitation Orders L-31 and L-174. Effect will be, of course, to further restrict sale of gas heating equipment.

The prevailing restrictions on new deliveries to non-residential customers are made nationwide, with November 30 the deadline for the installation of gas burning equipment in the new territories. The prohibition applies to space heaters as well as to central systems.

A definite schedule of curtailment is given to utilities.



Water System Rationing

Here's what to do to sell pumps under Dept. of Agriculture rule

Washington, D. C., Nov. 28—Dealers and distributors of farm water systems have been confused by new "freeze" and rationing orders issued by the Department of Agriculture. Recent orders by both the Department and the War Production Board now serve to clarify the situation somewhat. Farm water systems are released from the "freeze," when required procedure is followed.

The rationing power on farm equipment (including water systems and irrigation materials) has been delegated to the Department of Agriculture by the Office of Price Administration. The Department of Agriculture has issued (effective November 28) Rationing Order C, which requires consumer purchasers to fill out applications and receive certificates, permitting them to purchase the equipment. **The dealer may then sell the equipment to the purchaser, receiving the purchase certificate and then mailing it to the county farm rationing committee (these committees are now being set up). The dealer must keep complete records, and must abide by Maximum Price Regulation No. 133. He must send a copy of his invoice, or sales check, to the county farm rationing committee.**

The above provisions are applicable to deep well pumps, both reciprocal and jet; shallow well pumps of 250 gph capacity and greater; power pumps up to and including 75 gpm, 100 lbs pressure; windmill pumps, etc.; irrigation pumps; portable pipe; extensions, etc.

Shortly preceding the above Department of Agriculture Rationing Order, the War Production Board announced Limitation Order L-170, as amended November 25. This limitation order supersedes L-26, L-25a and L-26d. While setting up a rating of AA-3 for manufacturers in the purchase of raw materials, it also places quotas on the manufacture of equipment. The manufacturer of repair parts is encouraged by permitting an increase of approximately 30 per cent.

Dealers may sell new equipment and parts without any of the restrictions of the order, when such equipment was manufactured prior to November 1, 1942. It is noted, of course, that this provision by WPB does not relieve the dealer of the need to comply with the Ration Order C.

L-170 imposes inventory restrictions upon wholesalers and dealers which limits them to stocks of three months in the eastern and central time zones, and to four months in other zones. These inventory restrictions may be disregarded in cases of emergency repairs, when the emergency need is certified.

Affected dealers, manufacturers, and wholesalers, should obtain complete copies of both of the above orders, since they are very detailed and cannot be reprinted in full within space limitations.

Features Coming

Food is needed to win the war.

Farm water systems are a vital aid to food production. The manufacturer of new water systems is closely restricted as a result of material shortages. . . Therefore, existing water systems must be kept in good operating condition.

In some cases, plumbing contractors will be able and glad to undertake extensive inspection and repairs for their customers. In other cases, the job may be too trivial to justify time, travel and tires; over-the-counter sales of the parts manufactured under L-170—coupled with good installation advice—will yield a profit and save goodwill.

Succeeding issues of Domestic Engineering, continuing the series on pump repairs begun last month will deal with both of the above aspects of pump maintenance from the contractor's viewpoint. Meantime, send us your experiences and problems. —Ed.

Questions From Readers

One Reader's Answer

The answer which follows is one reader's solution to the question published in Domestic Engineering for November. Several very good answers to this problem were received but the one selected was considered to be the most concise and, at the same time, to explain the problem fully. Elsewhere on this page you will find another problem for which answers are invited. Send them to The Editor, Domestic Engineering, 1900 Prairie Ave., Chicago.

The question:

On any given steam heating system what will be the percentage of increase in the heat emission from the radiators if the steam pressure in the radiators is increased from 1 lb gauge to 10 lb gauge?

The answer:

Inasmuch as the ambient temperature was not stated it will be assumed to be 70 deg F. Then, from steam tables we find that the temperature of the steam at 1 psi is 215 deg F and at 10 psi it is 240 F. The standard output of radiator with steam at 1 psi and ambient temperature of 70 deg F would equal 240 Btu per hr per sq ft.

The following formula is used to determine correction factor for conditions other than standard:

$$C \text{ equals} \left(\frac{215-70}{t_s - t_r} \right)^{1.3}$$

Where t_s equals the temperature of the steam in deg F t_r equals the room or ambient temperature in deg F.

By substituting:

$$C \text{ equals} \left(\frac{215-70}{240-70} \right)^{1.3} \text{ equals } 0.813$$

The number of Btu per hour per sq ft with steam at 10 psi can then be found by dividing as follows: 240/0.813 equals 295. The percentage of increased output then equals $\frac{295-240}{240} =$ 22.9 per cent.

Westwood, Mass. L. E. Ashworth

• • •

Can You Answer This?

The following question is presented for the readers of Domestic Engineering to solve.

Answers which are received from readers will all be carefully considered and the most complete and accurate will be published in these columns next month. Five dollars will be paid for each answer published. Send your reply to The Editor, 1900 Prairie Ave., Chicago.

The Question:

One of the many hot rooms in a bath house is to be kept at 100 degrees temperature using steam radiators for this purpose; calculations for the room show that for ordinary conditions of 70 degrees in the room and zero outside, the required amount of radiation is 150 sq ft of steam radiation; how much steam radiation must be installed to hold this room at 100 degrees all other conditions remaining the same?

• • •

How Much Oil?

To the Editor:

I would like to be advised as to the proper procedure to follow in order to determine the seasonal consumption of fuel oil. Under the following conditions how much fuel oil would be needed? Heat loss—192,000 Btu per hour; seasonal efficiency—60 per cent; outside design temperature—minus 20 F; inside temperature to be maintained—70 F; Btu content of fuel oil—140,000 Btu per gal; degree days—7,850. What effect on the fuel oil consumption would be made with an inside temperature of 65 F? 75F?

New York **A. E. L.**

To the Reader:

It is impossible to foretell exactly the fuel oil consumption of any building with scientific accuracy; it may be approximated, however, within reasonable limits. The fuel oil consumption of two identical buildings built side by side will not be exactly the same. It can be seen from this that another building of different size and construction set down in other climatic conditions opens up an infinite number of variations even when the buildings are of similar type and used for corresponding service or purposes. In this particular case your minimum outside design temperature is —20 degrees and your degree days amount to 7,850 while the heat loss from the building is 192,000 Btu per hour presumably at the 20 degree below zero temperature. If the building is correctly radiatored it must have installed.

192,000 Btu/240 Btu or 800 sq ft

of radiator surface, or its equivalent in heating effect. We assume that the building is for residential occupancy and must be heated 24 hours per day with a slightly lower temperature held from 12 o'clock midnight until about 7:00 in the morning. Under such conditions residences located in districts where the minimum outside temperature is zero and the degree days number around 5,300 have been found to use very close to 0.9 gal of oil per annum per square foot of heating surface per 1,000 degree days. This works out in such localities about 4.5 gal per annum per square foot.

Your building in a **similar locality** would not require 800 sq ft of heating surface but would have the heating surface reduced to

$$\frac{800 \text{ sq ft}}{90 \text{ deg}} \times 70 \text{ deg or } 622 \text{ sq ft.}$$

and this 622 sq ft to handle a requirement of 7,850 degree days would have to deliver

$$\frac{7{,}850 \text{ deg days}}{5{,}348 \text{ deg days}} \text{ or } 1.47 \text{ times as much heat}$$

during the heating season. It is manifest that the oil consumption per square foot in order to do this would have to be 1.47 times as much as if only 5,348 degree days occurred.

In your building, however, there has been installed not 622 sq ft but 800 sq ft the additional surface intended to take care of a —20 degrees and is useless and superfluous for outside temperatures at zero and above. In other words, you have

$$\frac{800 \text{ sq ft} - 622 \text{ sq ft}}{622 \text{ sq ft}} \text{ or } 1.28 \text{ times as much heating surface.}$$

Then, if the increased percentage of oil consumption (1.47) with the smaller system of 622 sq ft is divided by the percentage that the radiation has been increased (1.28) the result will be the amount of oil required when spread over the radiation in the larger system or

1.47/1.28 or 1.15 times as much.

This gives, for the oil consumed per square foot of heating surface in the larger system,

4.5 gal $\times$ 1.15 or 5.175 gal

and for 800 sq ft this will amount to

5.17 gal $\times$ 800 sq ft or 4,140 gal

As far as your question about the room temperature being increased to 75 degrees and reduced to 65 degrees is concerned, the best way we know to approximate this is to assume a heating season of 200 days; with a room temperature raised 5 degrees above normal 70 degrees there will be added to the heating load the equivalent of

5 degrees × 200 days or 1,000 degree days

while if the room temperature is dropped 5 degrees below normal there will be subtracted the same number of degree days. This in your instance would add for 75 degrees

$$\frac{\text{7,850 deg days plus 1,000 deg days}}{\text{7,850 deg days}} \text{ or 1.12 times}$$

as much oil as used at 70 degrees while if the temperature were reduced to 65 degrees the oil used would be

$$\frac{\text{7,850 deg days} - \text{1,000 deg days}}{\text{7,850 deg days}} \text{ or 0.87 times as much}$$

This gives

4,140 gal × 1.12 or 4,636 gal for 175 degrees and

4,140 gal × 0.87 or 3,602 gal for 65 degrees.

Another From October

The following answer to the Readers' Question for October was received too late for inclusion in the November issue. The question, however, proved so popular that the editors decided to publish another solution to the problem.

Breifly, the October question asked how many faucets, running at the rate of 5 gpm, could be supplied from a spring and reservoir located on the opposite side of a creek.

The reservoir was 100 ft higher than the highest faucet in the house and the supply line was 500 ft long.

The answer:

The static head at the faucets (H) would be 150 — 50 or 100 ft. If we let f equal the friction loss head in feet then

H equals Pressure head (5 lb per sq in.) plus the velocity head plus f.

However, in long pipes where the length is at least 1,000 diameters, the velocity head becomes negligible compared to the friction head and therefore can be neglected in this problem.

The friction loss then can be calculated as follows:

$$f \text{ equals } 100 - \frac{5}{0.433} \text{ equals } 89.5$$

ft (total allowable friction loss) or friction loss per 100 ft equals $\frac{89.5}{500} \times$ 100 equals 17.9 ft.

From a chart of friction losses it is seen that a flow of 12 gpm would be possible under the conditions set forth. Therefore, only 2 faucets could be supplied at one time at a flow of 5 gpm per faucet.

This would leave a pressure head at the faucets somewhat in excess of the required minimum.

Los Angeles, Calif. H. A. Reeves.

Conversion Prices

(Continued from Page 43)

(2) In the event the manufacturer makes a sale directly to a retailer or an ultimate purchaser, and, in accordance with his practice on October 1, 1941, he makes a charge for the cost of transporting the parts to the retailer or ultimate purchaser, he shall state the transportation costs incurred by him in making delivery as a separate item on the invoice rendered to the retailer or ultimate purchaser.

1346.156 **Maximum prices for the sale and delivery of conversion parts by wholesalers.** (a) Maximum prices for the sale of conversion parts by wholesalers shall be as follows:

Class of Purchaser	Price per Pound of Conversion Parts
Retailers	15¾c
Ultimate purchasers	20c

(b) **Transportation charges.** On sales by wholesalers, where the shipment originates at a wholesaler's warehouse, or where the shipment originates at a manufacturer's foundry or plant at the request of the purchaser, the maximum prices set forth above shall be f.o.b. the wholesaler's warehouse or the manufacturer's foundry or plant, respectively. In either case, where the wholesaler makes delivery to the purchaser, he may add to the maximum prices set forth above the transportation cost actually incurred by him in making delivery. He must, however, state the transportation cost incurred by him separately on the invoice rendered to the purchaser. In the event a wholesaler makes a sale where the shipment originates at a manufacturer's foundry or plant, although not at the request of the purchaser, the shipment shall be treated, for the purpose of determining the transportation costs which may be charged to the purchaser, as though it originated at the wholesaler's warehouse.

(c) **Services, cash and quantity discounts.** The maximum prices for sales by wholesalers shall include at least the same rendition of services, and at least the same extension of cash and quantity discounts as were or would have been rendered or extended by the seller on comparable sales to a purchaser of the same class on October 1, 1941.

1346.157 **Maximum prices for the sale and delivery of conversion parts by retailers.** (a) Maximum prices for the sale of conversion parts by retailers shall be as follows:

Class of Purchaser	Price per Pound of Conversion Parts
Ultimate purchaser	20c

(b) **Transportation charges.** Retailers may add to the maximum prices established above the actual transportation costs incurred in securing conversion parts directly from either the manufacturer or the wholesaler; **Provided,** That the retailer states the transportation costs separately on the invoice rendered to the ultimate purchaser. In the event a retailer purchases a quantity of conversion parts that will be resold to different ultimate purchasers, he shall prorate the transportation costs equally on a per pound basis.

1346.158 **Maximum prices for the installation of conversion parts.** The maximum price for the installation of conversion parts, but including the installation of special combination grates only when installed by a person other than the seller of the special combination grate, shall not be in excess of a sum computed in the following manner:

(a) Take the number of hours utilized in making the installation (figuring the time on the basis of the practice customarily employed by the installer on October 1, 1941.)

(b) Multiply the number of hours utilized by the highest hourly price charged by the installer during the month of March 1942 for the same or similar mechanical service employing the same class of mechanics or, in the event the installer had no such established hourly price for such service or similar service during March 1942, the maximum hourly price of the nearest competitor who pays the same wage rate and employs the same class of mechanics: **Provided,** That the hourly price charged may be adjusted to reflect actual increases in wage rates paid by the installer becoming effective between March 1, 1942, and October 3, 1942, by adding to such March hourly price charged only the actual hourly increase in the wage rate during such period.

1346.159 **Maximum prices for special combination grates.** (a) **Installed price.** The maximum prices for the sale of special combination grates installed in the purchaser's heating boiler are as follows:

Trade Name of Special Combination Grate	Type	Capacity	Installed Price
"Konver-to-Kol"	Kit A	Up to 24" fire pot	$34.95
	Kit B	25" to 34" fire pot	39.95
"Convert-O-Grates"	Kit A	Up to 24" fire pot	34.95
	Kit B	25" to 34" fire pot	39.95
"Stoket"	A-14	Up to 20" fire pot	32.95
	A-22	22" to 26" fire pot	39.95
	Type B	27" to 40" fire pot	37.95
	Type C	21" to 27" fire pot	34.95

(Continued on Page 102)

How to Prevent Water Systems Freeze-Ups

Serious shortage of farm labor and urgent need for maximum farm production demands that water supply systems be kept running. Adequate protection against freeze-ups and proper maintenance and repairs of pumping equipment are first essentials.

This continues the series, begun last month, in which excerpts are taken from manuals and guide books of leading pump manufacturers in order to emphasize various important points in regard to the repair and maintenance of water systems.

SEASONALLY, this is the time for the master plumber to stress to his customers that pumps must be protected against extremely cold weather. Neglect may lead to destruction of expensive equipment which, because of the tight material situation, can be replaced only with difficulty.

The first job is to drain all pumps and water systems not housed in frost-proof shelters or protected, by design, against freezing. Following are the suggested rules for draining shallow well pumps:

(1) Open all drain plugs and leave open until pump is returned to operation. Plunger types may have drain plugs for both suction and discharge valve chambers. On other type pumps there may be drain vents for air charger, air chamber or unloader valve.

(2) If water drains or siphons back to pump, disconnect pipe line.

(3) If plunger type, run pump for short interval after removing drain plugs to release any water that may be entrapped.

(4) When returning pump to service, be very careful to replace all drain plugs tightly.

The degree of protection usually provided for most pump and water system installations, it is stated, is adequate only for average winter conditions prevailing in a given territory. Extreme low temperatures, therefore, may result in wholesale damage unless precautionary measures are adopted. These measures include:

(1) Additional insulation such as corn fodder over well pit or basement window.

(2) Introduction of heat, such as placing a high wattage lamp or oil burner in well pit.

(3) Maintaining circulation, such as by keeping an outlet partially open.

If water service is to be discontinued throughout the winter, as in a summer home, it is advisable to drain the pressure tank as well as the suction and discharge lines. Sometimes the tank will not drain properly unless the plug in the top is opened. If there is no opening in the bottom of the tank, it will be necessary either to pump out the water or to upset the tank. A suction line will not drain if equipped with a foot valve. In such cases it should be disconnected at the well.

Of course, many pumps are protected by frost-proof construction. With the deep well hand and windmill type pump, having its cylinder down in the well, the operator should inspect the drain vent for possible rusting opening. Fig. 1 shows that a small hole in the drop pipe below the frostline is drilled by the manufacturer to serve as a drain vent.

Other hand and power pumps of the deep well type may be rendered frost-proof by an underground discharge connection which does not permit the water to stand above the frostline (see Fig. 2). This type also has a small drain hole four feet below the platform. In cases of power driven units, a waterproof shelter should be provided.

At left: Fig. 1. Illustration from service book showing drain vent for hand type pumps. This vent should be inspected for possible rusting. Below: typical pump house. Heating, in some cases merely a high wattage lamp, will give assured protection

Minute men to arouse sleeping Scrap.....

Steel salesmen, along with the salesmen of all other industries, are the Minute Men of 1943. Their task is to arouse dormant scrap—in your plant, in every shop they can reach.

Be on the alert for this modern Minute Man's urgent call. His job is threefold:

1. To remind you of the objectives of the WPB Dormant Scrap Drive and enlist your scrap.
2. To help you determine what may be considered dormant scrap.
3. To help you start your dormant scrap on its way to hungry steel furnaces.

So long as an enemy is in the field, scrap need will be critical. The Minute Men are pledged to help you keep it rolling for the duration.

25-42E

THIS ADVERTISEMENT SPONSORED BY

THE YOUNGSTOWN SHEET AND TUBE CO.

Youngstown, Ohio

PRIORITY *Problem* CLINIC

Rules on copper inventories and copper installations bring questions. Reader has interesting cost problem

To the Editor:

We are wholesalers of plumbing and heating supplies, and we understand there is an order just released from the War Production Board that prohibits the sale of brass and copper plumbing and heating supplies to the trade.

Kindly advise us whether this order restricts us from selling brass fittings, faucets, stops and wastes, concealed bath fixtures, and miscellaneous supplies to the trade.—Wholesaler.

● **M-9-c-4, as effective October 27, prohibits the sale of copper tubing and fittings to wholesalers and contractors, except upon authorization of WPB, or permission pursuant to L-41. Applications for authorization to make delivery in exception to this order should be made to Copper Division, War Production Board.**

The order does not restrict the wholesalers' sales of plumbing and heating items such as faucets, drain cocks, etc.

The installation of copper tubing and fittings is very closely restricted, as explained in last month's issue. (1) Copper tubing and fittings may be installed, in aggregate weight no more than 25 lbs, when they are used for repair or replacement of existing copper and when the owner had possession of the materials by October 26. (2) Copper fittings may be connected to copper tubing already installed, when the connection is for repair or maintenance. Copper fittings may be connected to a water supply or distribution system outside of a building. (3) Both pipe and fittings may be installed when it has been purchased by certain Government agencies.—Ed.

● ● ●

Contractor Problem

To the Editor:

I have on file with the Copper Recovery Corporation a list of brass and copper which they are asking me to sell back to the Government; the prices they offer me are way lower than I originally paid for them. Have you any information on hand covering the sales of these materials back to the Government, or is it compulsory to sell this back to the Government and take the loss as quoted by their prices?—Contractor.

● **It is not clear from the above that the contractor has received an actual offer of purchase or requisition; however, the following observations can be made:**

1. The original questionnaires sent to contractors and wholesalers asked for listings only of idle, excessive or frozen inventories. In view of the M-9-c-4 order discussed in the preceding problem, it is judged that any but very minimum stocks of copper tubing and fittings would be considered "excess." The question remains as to what to do with such material.

2. The first possibility is to sell such material to the Government through the Copper Recovery Corporation. The Corporation has already requisitioned at least one excessive stock of copper tubing for remelting, but the purpose up to now has been to obtain inventories mainly of unfabricated, partly fabricated or scrap metal. It is not anticipated that modest stocks of tubing will be requisitioned for remelting; and it is the definite policy of the Government not to take for remelting products whose value is much greater than scrap value. It may be that the Government will have need for fabricated products such as valves and, if so, it is assumed that fair prices will be paid. The seller, in any case, has the right of appeal.

3. Other avenues of sale are available. Priority Regulation No. 13, governing inventories, permits sale of materials in the ordinary progress of business—which would mean in conformity to M-9-c-4. Also, sales are permitted to certain Government agencies. If the seller has still another market, he may apply for permission to make such sale by filing form PD-470 at his local WPB office.—Ed.

● ● ●

Mfgr. Problem

To the Editor:

We have on hand a surplus stock of thermostats (brass); also a quantity of boiler drain cocks (brass) which we wish to dispose of to wholesalers, but we are not sure that we are permitted to sell these parts.—Manufacturer.

● **Yes, you are so permitted.—Ed.**

● ● ●

Labor Costs

To the Editor:

We have just been reading your information on Maximum Price Regulation No. 251 in the November issue of DOMESTIC ENGINEERING.

As we understand it we are allowed to add our increases in labor costs on the job up until July 1, 1942, but the thing that puzzles us is how are we to allow for the increases which we are bound to give to an apprentice as his skill increases. Please give us some information on this in your next issue if possible.

P. C. Godfrey Company
Charlotte, N. C.

● **Best information is that the contractor may include the cost of apprentice wages. These costs do not represent raise in pay, but "reclassification" of employees.—Ed.**

Warning

Readers are cautioned that the above answers are drawn from a close study of the orders concerned, and do not constitute official interpretations of the orders by the War Production Board.—Ed.

Ration Coupons

Washington, D. C., November 29— Rations of fuel oil for heating throughout the 30-state rationed area will continue unchanged for the next five weeks, embracing the second heating period, Paul M. O'Leary, OPA deputy administrator in charge of rationing, announced today.

Class 1 coupons, used mostly by householders for heat and hot water, will continue to have a value of 10 gallons each and Class 2 coupons, used by apartment houses, etc., continue to be good for 100 gallons.

Are you missing this New Market?

New **"WIN-THE-WAR" STACY** vitreous china lavatories have special Centra mixer fittings of cast iron smoothly coated with baked black plastic, inside and outside. The working parts are brass.

DAYBROOK vitreous china drinking fountain with non-squirting bubbler head; automatic volume control; self-closing, adjustable for continuous flow.

IN MANY war-busy plants, new plumbing facilities must now be installed to meet the needs of women workers. It's not only good business but good patriotism to supply and install fixtures made for long, trouble-free service.

Kohler is making special "WIN-THE-WAR" fixtures and fittings to answer this and other wartime emergencies. In the new line, scarce metals are replaced by vitreous china and cast iron and plastics, wherever possible. A minimum of brass is used in valve seats and stems to assure efficient service.

Kohler "WIN-THE-WAR" plumbing is available for your use both in industry and housing — in war plants, at Army and Navy bases, in essential construction such as war-worker homes and for necessary renewals. These jobs command high priorities and are worth going after. . . . Kohler Co. *Founded 1873.* Kohler, Wisconsin.

KOHLER OF KOHLER

PLANNED PLUMBING AND HEATING . . . ELECTRIC PLANTS

Between Ourselves . . .

Home Front

(Continued from Page 36)

capacity is staggering to the imagination. Measured in terms of tanks, guns or planes, we realize what an appalling loss to our war effort is involved. This is far too much to jeopardize further by ignoring the importance of a major contributing factor to national health—our sanitation. The effective maintenance in repairs and repair parts of our home appliances must be realistically approached.

Lack of sanitation, lack of common comforts, lack of protected foods—these are the possible forerunners of something more tragic than this country has yet witnessed. If Hitler had his greatest wish, it would be that his enemies suffer the calamity of a national epidemic—sweeping across the entire country, not only as a deterrent to production, but as an actual force of destruction.

It can happen here!

Those who think this reasoning fantastic should subject themselves for a month—for a week—to the devastating consequences of not having a bathroom toilet, the means of plenty of hot water, the facilities for keeping food pure, the equipment for proper preparation of this food, and the means for proper space heating.

Many are already undergoing a part of these inconveniences due to a shortage of repair parts for their domestic equipment. The number will obviously grow unless something is done about it. There will be thousands of homes throughout the country with idle furnaces, refrigerators, stoves, water heaters, and other appliances—if repair parts are not made available. The manufacturer stands helpless in this situation until he is permitted to get materials now restricted. He is further prevented from helping the morale of civilian America because under many price restrictions it would cost him more to manufacture and distribute the repairs than he could possibly realize in return. It may be that concentration of manufacture will solve the problem of new appliances, but concentration cannot supply the repair parts needed because parts are not standard and are not interchangeable. Thus they can not be centrally manufactured for all types and makes of equipment.

There should be action taken by those in responsible positions and at once. **The OPA freeze order on repair parts can and should be lifted. Permission should be given to establish at a level consistent with manufacturing cost the prices on repair parts.**

The WPB should make allocations at preference ratings that will insure the delivery of materials to manufacturers for the repair parts needed to restore the use of vital home appliances. There should be sufficient stock of materials on hand for the manufacturer to keep his market satisfied.

It may be claimed that the manufacturer has an obligation toward his customer and therefore should try to placate that customer's state of mind. However, the manufacturer has only one answer to the customer's need for repair parts. He must, if he is truthful, tell the customer that war agencies are preventing him from getting material needed to make necessary repair parts. The manufacturer is not subject to any ill will from his customers because they know that he is helpless to do anything for them.

Repair parts for all vital home appliances should have the right of way along with bullets and medicine. They are vital to our health, our morale, and our strength.

The war must be won on both the fighting front and the home front.

L. R. Mendelson, President
The Hotstream Heater Company
Cleveland, Ohio

● The War Production Board has stated that ratings of AA-1 will be given for essential repairs (see Washington section). Mr. Mendelson's letter, arriving in advance of the WPB announcement, was prophetic. It is printed above, first, because it makes an excellent case for the importance of our industry and, second, because it is not yet certain that all essential repairs and maintenance will command the top priority.—Ed.

● ● ●

Heavy Readers

To the Editor:

Enclosed you will find $9.00 for nine copies of Johnson's Handy Manual. No, I am not in the book-selling business as you might suspect. I am a piping foreman in the Richmond shipyards and I had recently purchased one of these manuals. While I was using it several of the men working under me saw it and wanted copies like it; I am ordering them for these men.

M. D. Durbin
San Francisco, Calif.

Senators Say

(Continued from Page 42)

lightened as to the great need for such watchfulness. Truly believe me when I say that your magazine is performing a splendid service along these important lines.

Therefore, it is essential that all citizens cooperate to the same degree and, as always, when Americans are called upon to sacrifice you will find, I am sure, that they will not be found wanting.

W. Warren Barbour
U. S. Senator from New Jersey

● ● ●

To the Editor:

We have all over America initiated a program for the rationing of fuel oil because of the tremendous demand for oil for our ships and airplanes. More stringent rationing of oil is promised.

We know right now that Hitler's great need is gasoline and motor oil.

Sen. Alexander Wiley

If he had a sufficient supply, he would have thousands more fighter and bomber planes in the air.

In the field of domestic engineering, experts are acting as consultants to local fuel rationing boards, conducting technical surveys to determine normal and minimum requirements of homes and buildings, and are "doctoring" heating plants so that homeowners may obtain maximum heat with minimum oil.

In this respect, plumbing contractors are making a definite contribution to the war effort in saving oil and in maintaining morale.

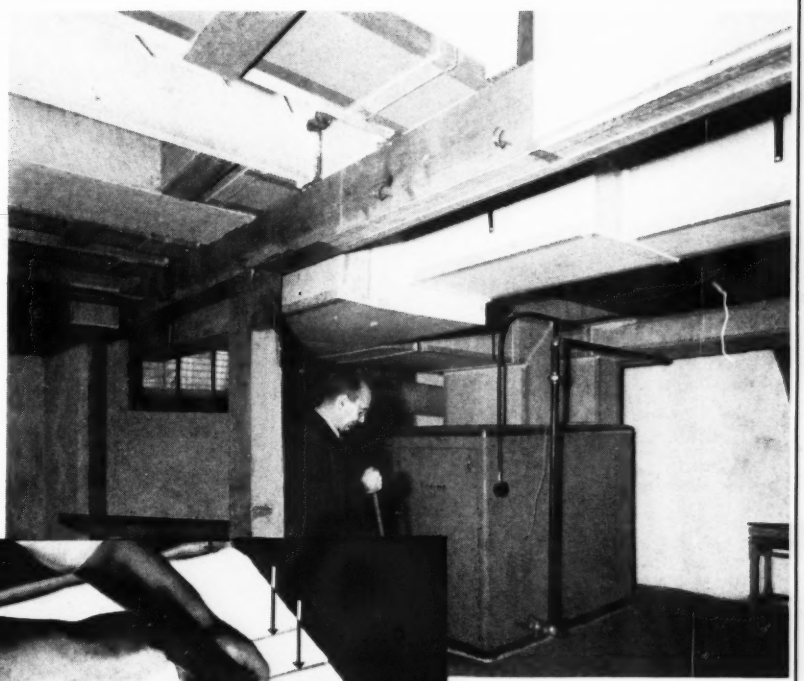
Alexander Wiley
United States Senator from Wisconsin.

(Continued on Page 84)

AUTOMATIC HEAT *and* AIR CONDITIONING *Section*

DUCTS FOR WAR

Critical metal shortage has made the use of non-critical materials imperative. This is especially true in the case of ductwork where excellent alternative materials are now being employed



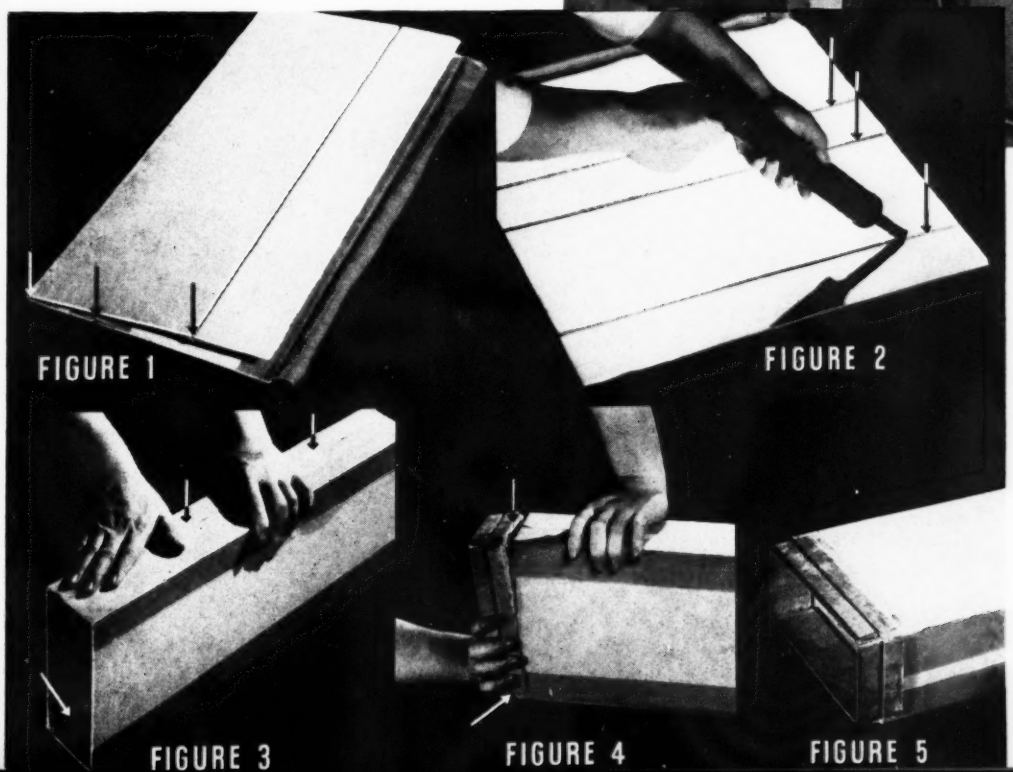


FIGURE 1

FIGURE 2

FIGURE 3

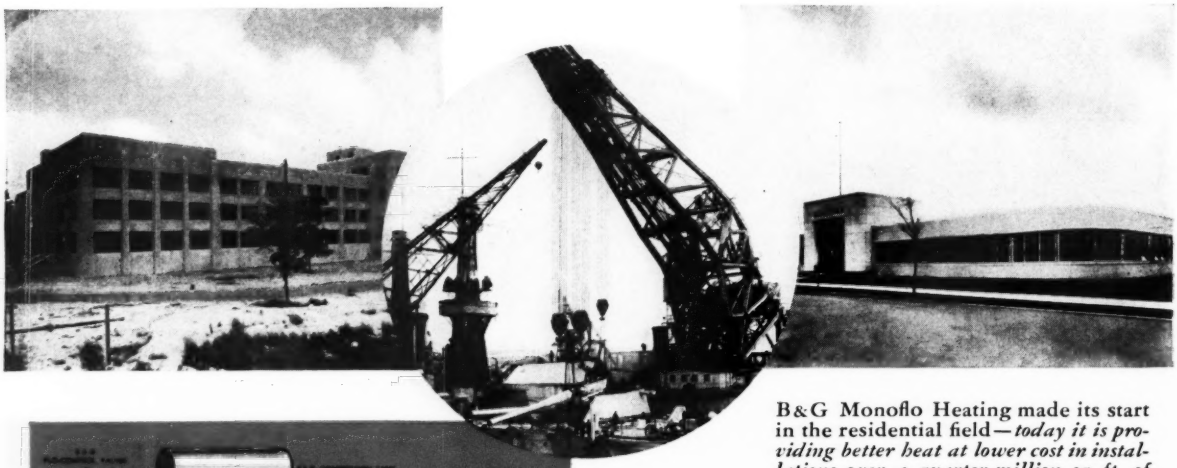
FIGURE 4

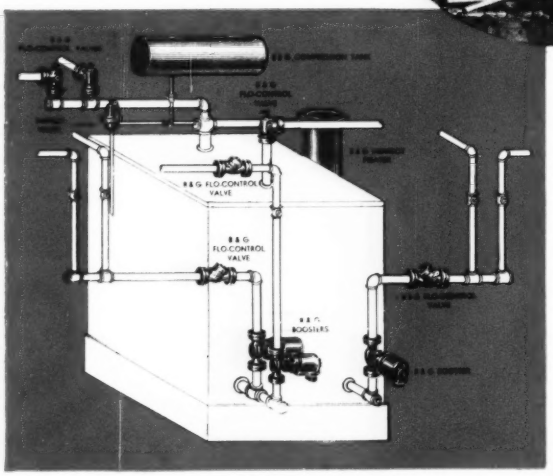
FIGURE 5

The photo above shows a typical installation of non-metallic ductwork in a residence. The photograph at the left shows: Fig. 1 — How formed duct is shipped flat with gummed paper to hold sheets in position. Fig. 2—Cement being applied to beveled edges of seams. Fig. 3—Moistened end of gummed paper used to hold formed sections until cement hardens. Figs. 5 and 6 — Metal connectors during and after connection

ALWAYS ENOUGH HEAT.. NEVER TOO MUCH

THE REASON WHY HOSPITALS — FACTORIES — SHIPS ARE SAVING FUEL WITH B&G MONOFLO SYSTEMS





B&G Monoflo Heating made its start in the residential field—*today it is providing better heat at lower cost in installations over a quarter-million sq. ft. of radiation!*

Because water under forced circulation can be controlled to exactly equal any given heating load, B & G Monoflo Systems are playing an active part in conserving the nation's fuel supply. This system automatically modulates the heat supply to match outdoor temperature, thereby saving the fuel usually wasted by over-heating.

Likewise, the simple zoning possible with a B & G Monoflo System has led to a widespread use of *Departmental Heating.* This practice permits adjusting the heat supply to the functions of various sections of the building, or to compensate for exposure factors.

All this is accomplished with a minimum of operating equipment. None of it is complex—none requires critical adjustment. Its extreme simplicity is assurance of dependability.

SIMPLE, FOOL-PROOF EQUIPMENT

The operating equipment of a B & G Monoflo System consists of a B & G Circulating Pump, B & G Flo-Control Valve, B & G Compression Tank and B & G Relief Valve. A B & G Indirect Water Heater can also be included for a year 'round supply of domestic hot water. This equipment is adaptable to a cottage, or by simply increasing the size or number of the various units, can be used on the largest installations.

Designed especially to meet today's war conditions! Manufacture of water heaters employing copper tubing is forbidden, so here in the B & G Steel Tube Heater is a very satisfactory substitute . . . available in a complete range of capacities. Because of difficulties in obtaining storage tanks today, we recommend that B & G multipass, tankless type heaters be used unless a storage tank is already installed. Send for literature.

THE B&G MONOFLO FITTING

This expertly engineered device has made possible the substitution of a *single* pipe main for the two pipes formerly required for forced hot water heating systems. Used in place of the customary tee to connect risers to the main, it assures a balanced distribution of hot water to each radiator.

B&G Handbook contains complete information on designing B & G Monoflo Systems. Send for your copy.

B&G

BELL & GOSSETT COMPANY

MORTON GROVE, ILLINOIS *(Suburb of Chicago)*

Canadian Licensee: S. A. Armstrong, Ltd., 115 Dupont St., Toronto

MONOFLO SYSTEM

Service

IS YOUR BRIDGE TO FUTURE PROFIT

All you ever heard or read about the importance of service, goes double now!

Service is not only important—it's a vital necessity. And not for the heating industry only—for *all* industry—*for the whole nation!*

In the heating industry we've got a special job to do—the job of conserving . . . protecting what we have. We've got to save existing equipment . . . make it do . . . and see that it serves efficiently and economically—to protect health and morale—*to save fuel!*

There's no time to dream now about the post-war world. But you can do a little hard thinking. And it doesn't take much imagination to picture the market—the pent-up demand—that will exist then.

Service is your bridge to that market—those future profits. It's a worth-while job right now—it will pay off richly when the war is won.

Penn offers you full co-operation in keeping existing heating plants functioning efficiently. Like all items of equipment, automatic controls must be skilfully and thriftily serviced. Under established priority rules Penn is prepared to furnish new controls to replace those which cannot be made to function efficiently. *Penn Electric Switch Co., Goshen, Ind.*

PENN CONTROLS

REFRIGERATION, AIR CONDITIONING, ENGINE, HEATING, PUMPING AND AIR COMPRESSOR

DUCTWORK—

Wartime Work Demands Use of Wartime Materials

The use of metal for ductwork has been cut nearly to the irreducible minimum and the contractors' jobs have been made more difficult. Accepted practice in construction of ducts shown here

TURN in the old metal and don't use any new metal if you can avoid doing so. This is the basis of all construction work now going on in the country and heating and ventilating have been scrutinized most carefully in an effort to reduce consumption of metal. This condition undoubtedly will continue for the duration and it has become necessary for contractors to turn their minds to substitution with a capital "S."

Assuming for the moment that non-metallic duct-work can be installed without too great an increase in cost it follows that heating as well as ventilating is likely to be affected. For heating can be accomplished with the hot blast method—particularly in the industrial type of building—with considerably less poundage of metal than with any other method particularly if the fan room is located on the end of the building where the steam supply enters the structure. Hospitals are making additions and erecting new buildings some of which are of fireproof construction. In such cases fireproof ductwork may be required by the local building code. Factories in most cases are non-fireproof owing to their presumed temporary life and the greater rapidity with which wooden structures can be erected. So it comes down to the question of what can be done with fireproof and non-fireproof non-metallic duct construction. It is the purpose of this discussion to show various suggestions for fabricating such installations all of which are subject to modification to suit the individual case.

For fireproof ducts, materials such as asbestos and composition boards and other non-burning materials now on the market and not on the critical list may be employed. Most of these have insulating value of their own so that duct covering is unnecessary and is not used. Under ordinary construction it is hard to eliminate a minor amount of metalwork in such construction. However, if careful study is made it can be reduced to 4 per cent critical materials. This has been accomplished by one of the leading asbestos companies and a duct system has been devised that embodies neatness, tightness, low static resistance, permanency, fire resistance and at a cost in keeping with bare sheet metal. Where metal is used, Fig. 1 shows a method ordinarily used. The strip is bent with two projecting legs which have to be sprung back slightly to allow the sheet to enter and then clamp the sheet after it has been inserted.

At junctions between straight sheets the clip or strip is made as shown in

Below: Figs. 1 and 2 show metal clamps used for joining the ends of non-metallic ductwork. Figs. 3 and 4 show how the duct is held together with strips of metal running around the duct. Note how corner pieces project on one end and are set back on the other to make a stronger joint

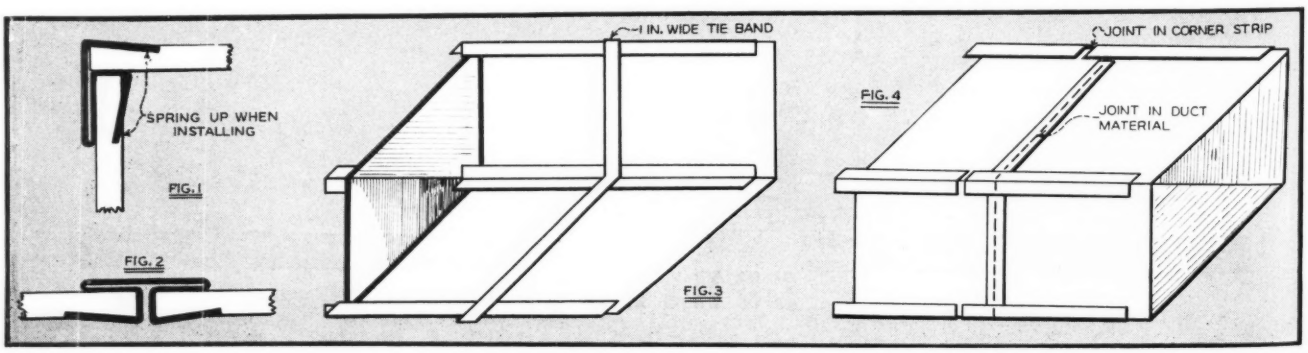


Fig. 2 and also has spring pieces to clamp the material after it has been inserted into the strip. In order to hold the duct together a band about 1 in. wide is put around each section. The corner strips may project about 2 in. on one end while they are set back a similar 2 in. on the other. This results in a typical duct section appearing as shown in Fig. 3. The butt joint strip is cut so as to let the corner strips run continuously leaving the butt strip to run from corner strip flange to corner strip flange (Fig. 4).

The straight work is comparatively simple as support is secured either by running 1 in. strips up to the ceiling from the binding strips or by using 1 in. strips in the form of a "U" hanger running down from the ceiling, around the duct and back to the ceiling on the other side. Branches, however, offer some difficulty. Owing to the fact that the various materials do not lend themselves to bending, all turns and branches must be built with square corners or with 45 degree turns.

For such purposes the duct is split in the usual manner so as to divide the air in accordance with the desired quantity for each side of the branch. Then a duct turn is inserted in the branch which turns off from the duct as indicated in Fig. 5. Volume dampers may be installed to regulate the air flow in each branch.

Turns in the ductwork are made in a similar manner using a right angle bend with a duct turn or an elbow made of two 40 degree turns and possibly omitting the duct turn. Another method of making branches without the use of the metal duct turn is illustrated in Fig. 6. In this case a piece of material the same as used for forming the duct is inserted in the right angled corner so as to make two 45 degree turns instead of one 90 degree turn and a splitter is used to control the amount of air entering each branch.

Casings for heaters and connections to fans may be built up as shown in Fig. 7. The casing is built usually in a rectangular form with deflector plates inside of the casing to ease sharp turns in the transformations and it employs the plenum chamber idea so far as possible. Even when the ductwork is of non-fireproof material the portion of the construction enclosing the heaters should be made fireproof as indicated in the sketch. Fire-

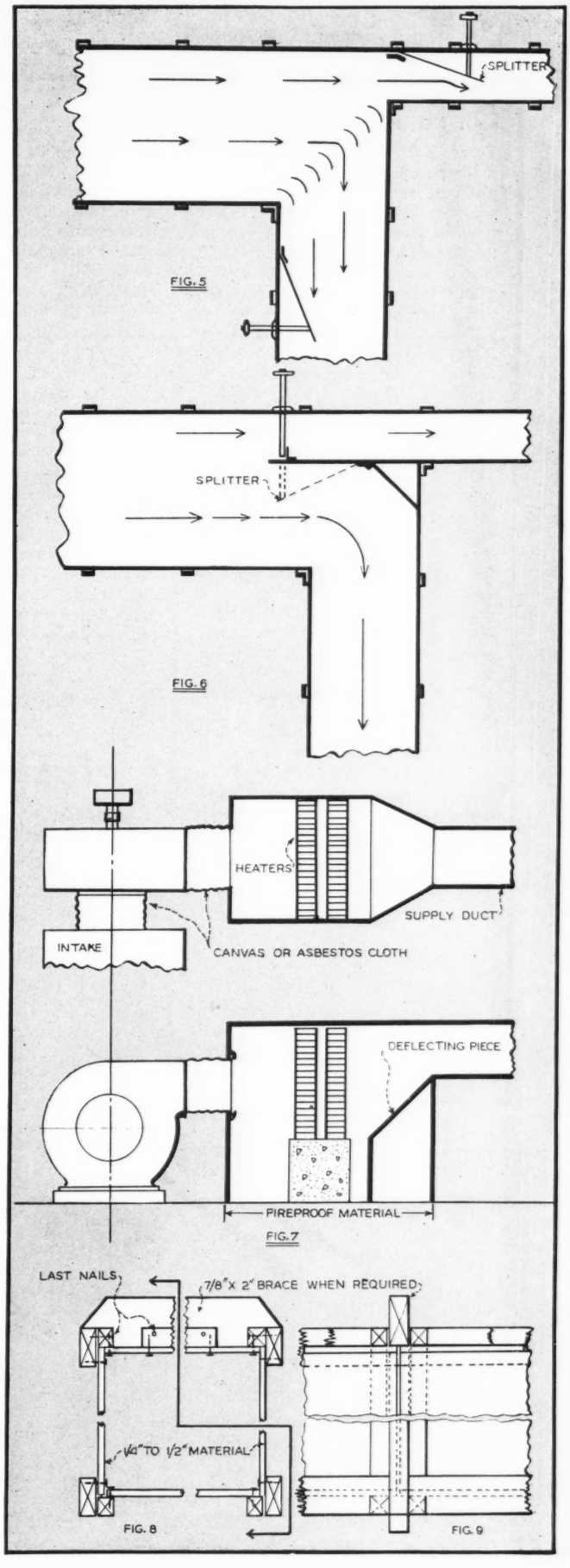
One method of installing a branch duct and an air splitter is illustrated in Fig. 5 at the right. The volume damper shown may be used to regulate the air flow in each branch

One method of making branches without the use of a metal duct turn is illustrated in Fig. 6. Nonmetallic material, such as is used in the remainder of the duct work is used to make the turn

The use of nonmetallic materials for heaters and connections to casings is pictured in Fig. 7 which shows both plan and elevation views. This construction permits the use of fire - resistant grilles of metal

Fig. 8 at the right shows one method by which the sides and top plates of a duct may be fastened

Another view of the same operation is pictured in Fig. 9. The methods of fastening these ducts to the ceiling above is shown on the next page



On Formed Ducts

To the Editor:

After reading the article which you plan to publish on the subject of non-metallic ductwork we wish to say that we concur entirely with you on this important service of non-metallic duct systems. We, however, accomplish this important service by an entirely different method. We do not sell our formed ducts in flat sheets for complete installations although a few flat sheets, we appreciate, are necessary on every job to fabricate odd dimensioned plenum chambers.

The oustanding thing we want to point out regarding your sketches is that we feel it is not as satisfactory from an installation standpoint to use wood corner pieces inside of ductwork. The lumber being used today certainly is not seasoned lumber and, for instance, a No. 2 pine today might easily have been a No. 6 pine three years ago. We feel certain that when warm air comes in contact with these wood corner pieces that splitting, distortion, cracking and warping will take place, thus leaving large openings in the duct system.

In our fabricated sections we have limited the length of sections to 32 in. in length for some very important reasons; these are: strength of materials, ease of handling and weight per section. The smaller sections can be handled by one or two men instead of three or four. We all know the expense of having three or four men installing large sections, standing in each other's way, at the rate of $1.50, more or less, per hour. The savings in labor alone, due to weight, are sizeable.

In pre-cut and smaller sections supervision and layout time is materially reduced because the sections are formed in definite sizes and can be run according to a layout furnished to the worker. The precut sections also reduce the shop equipment necessary. With mitered corners cement can be used to bind the sections together without metal or wood corner pieces.

H. W. Gray, Airtemp Division
Chrysler Corporation, Dayton, Ohio

AUTOMATIC HEAT and AIR CONDITIONING Section

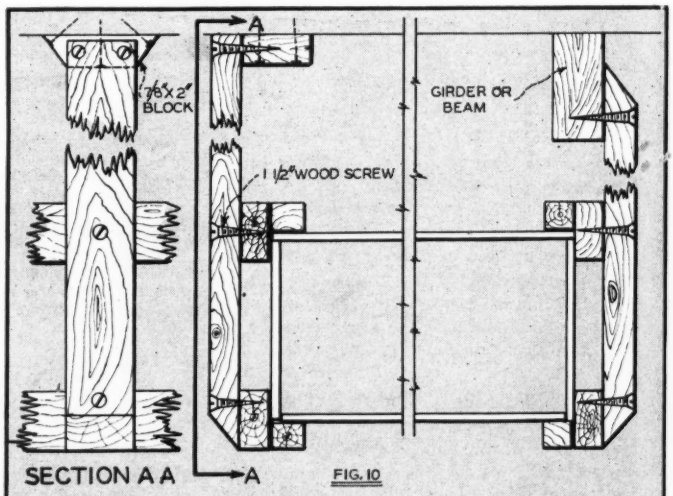
(Continued from Page 71)

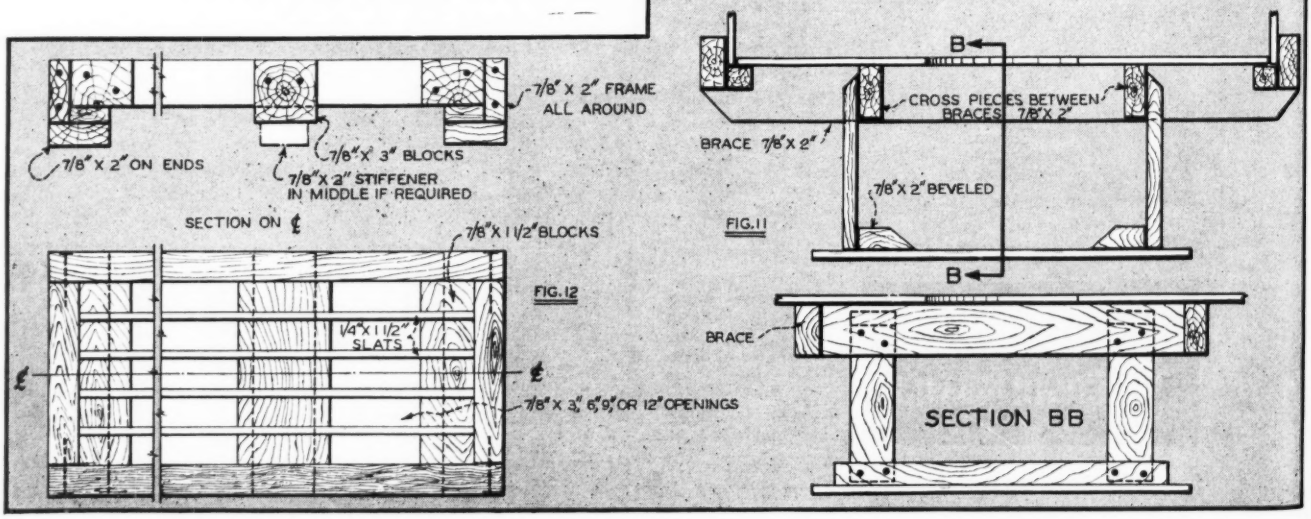
proof grilles of metal are permitted.

Most of the war plants not being fireproof in their own building construction have no need of fireproof ductwork and when the ductwork can be made non-fireproof much greater latitude in the method of construction becomes possible. In the first place a greater variety of materials, such as the various plywoods and composition boards may be used. The framework can be light as the materials themselves are light and such framework can be constructed of any of the multitude of stock lumber shapes which in most cases are to be had at any lumber yard handling building supplies. It is entirely possible that modifications can be made in the following suggestions which would be improvements in any specified job. In the first place the basis, of course, is to construct a duct with the air flow impeded as little as possible and simulating the conditions—as far as air flow is concerned—which would be secured with the use of sheet metal. This means that the interior of the duct should be kept as free of obstructions as possible and that the frames holding the sheets must be kept on the outside. The result is not as pretty as can be secured

(Continued on Page 82)

A typical example of each type of hanger is shown in Fig. 10. Outlets from the ducts may be constructed with deflectors as shown in Fig. 11 at the right below. Fixed louvers may be constructed as shown in Fig. 12 below. Adjustable louvers are difficult to construct and where these are necessary they should be made of metal




7/8" X 2" FRAME ALL AROUND
7/8" X 2" ON ENDS
7/8" X 3" BLOCKS
7/8" X 2" STIFFENER IN MIDDLE IF REQUIRED
SECTION ON ℄
7/8" X 1 1/2" BLOCKS
FIG. 12
1/4" X 1 1/2" SLATS
7/8" X 3", 6", 9", OR 12" OPENINGS
B
CROSS PIECES BETWEEN BRACES 7/8" X 2"
BRACE 7/8" X 2"
7/8" X 2" BEVELED
FIG. 11
BRACE
SECTION BB

News of Contractors . . .

Recommends Codes

The National Bureau of Standards has issued a new "Recommended Building Code Requirements for Dwelling Construction." This model code is the work of the Sub-Committee on Building Codes, Central Housing Committee on Research, Design and Construction, the same body which drafted BMS-66 and other studies in relation to plumbing.

The new Building Code or standard (BMS-88) "is offered for consideration wherever local building code requirements are being adopted or revised." It should be emphasized that this code is not now operative as the criterion for housing construction, inasmuch as the "War Housing Construction Standards" explained on Page 41 of last month's issue govern during the material emergency.

On Plumbing BMS-88 refers to the "Emergency Plumbing Standards for Defense Housing."

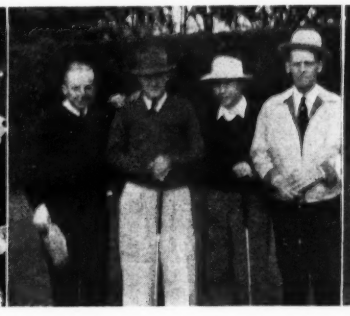
In announcing BMS-88, it was stated that "the committee recognizes that emergency conditions limit the availability of certain materials, require stringent economy in the use of others, and make the use of substitutes necessary in some cases. It is of the opinion, however, that it is not practicable to write building code requirements in terms of a severely restricted list of materials based on temporary shortages nor to suggest details about substitutes in the code itself. Such matters are covered more flexibly and efficiently by general provisions in the code, supplemented by regulations that can be put into effect or withdrawn in accordance with fluctuating conditions. Similarly, it has been found best to treat the subject of new materials and methods of construction in a general way providing for acceptance on submittal of satisfactory evidence that they are suitable."

S. F. Golf Match

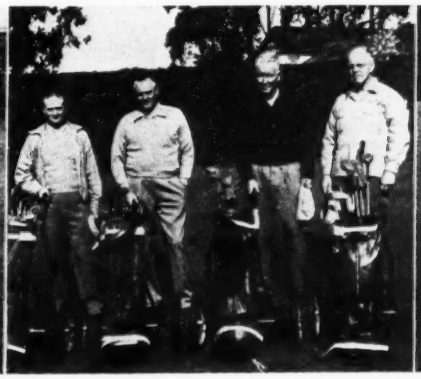
One of the finest Indian summer days, and a course rated as tops in any man's golf language—such was the dual attraction that drew nearly 70 club-swingers of the Plumbing and Heating Club to the San Francisco golf mecca of that name on the afternoon and evening of October 30.

The occasion was the seventeenth annual fall tournament. Straight through the tournament and dinner, the programmed events arranged by Pres. John F. Heil, Golf Chairman W. Allen Taylor, Entertainment Chairman Elmer K. Ross and Executive Secretary H. L. Sales, clicked in fast-moving order. Golf honors in Class A, low gross, went to Dan Linehan, 77, low net, B. McConiha, 73; B Class, low gross, Wm. Jensen, 85, low net, Frank Gabbert, 72; C Class, gross, R. Tatam, 97, net, F. Kolb, 78; D Class, gross, C. Swigert, 107, net, Fred Chittenden, 76. The member blind bogey was won by Harry Haley, the guest bogey award went to B. J. Bridgeford. Birdies were

Below—Among those enjoying the festivities at the P and H Club tournament, San Francisco: Pres. John F. Heil, Executive Sec. H. L. Sales, M. B. Woodson, Frank Gabbert, Harry Morse, Ralph Olsen, F. Summers, R. Tatam, E. Heieck and W. M. Jensen



Below—(Golfers at the P and H Club tournament, San Francisco) L. Cochran, K. A. Becker, B. F. Blair, Thomas C. Douglass, J. Spratt, J. Shattick, Harry Haley, Fred Chittenden, Major H. Dunn, Rene Fontaine, J. M. Perlewitz and J. J. McLeod. Note players' mechanical "wartime caddies"



scored by J. O'Connor, J. Spratt, Nelson Cullenward, J. Traynor and T. Benny, Jr. The steak dinner that followed the tournament, was featured by professional entertainment, and this, in turn, was highlighted by the singing of Member Ralph Tatam.

The Plumbing and Heating Club's Christmas Hi-jinks, an annual event in California trade circles, will take place at the Palace hotel, December 17. And providing the transportation and caddy situations, to say nothing of the WPBlues, OPAwfuls and Priority Pains, are no worse, the time-honored Hi-jinks golf tournament will also be held.

May Amend Code

The building and plumbing code of Manchester, N. H., may be relaxed for the duration because of the difficulties and, in some cases, the impossibility of securing certain materials. Maurice F. Fitzgerald, superintendent of the City Building Dept., plans to bring the situation to the attention of the mayor and Board of Aldermen.

It is believed the building code will be amended so as to permit the use of substitute materials in cases where safety and health will not be endangered.

On Committee

Iver Iverson, Portland, Me., plumbing contractor, was appointed November 2 by Gov. Sumner Sewall as one of five employer representatives to serve on a 10-member State Apprenticeship Council designed to "promote the training of apprentices in Maine industry."

Training Personnel

The acute shortage of personnel in the shops of plumbing and heating and gas appliance dealers in northern California is being met by a new plan which is providing 50 trained mechanics per month—men who have taken courses given by two trade schools in conjunction with the Electrical Assn. of Northern California and the Gas Appliance Assn. of Northern California.

Following surveys and conferences, the two classes were opened in September, one at Samuel Gompers Trade School, in San Francisco, and the other at Central Trade School in Oakland.

To qualify for study, applicants must be not subject to military service, which means men over 50 years of age, women of any age to 55 years, and partly crippled or otherwise exempt men. The trade schools donated the use of their classrooms, and the two associations arranged for competent instructions from among their own members.

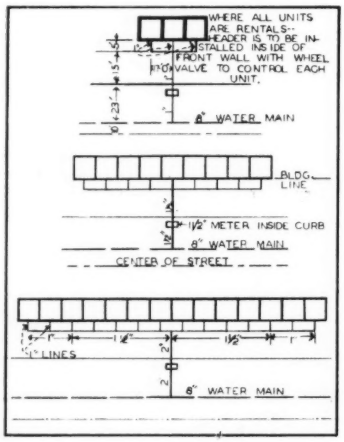
The great enthusiasm with which the plan was met came as a surprise to the associations—for more than 500 men and women applied for admission. Many had had previous experience, and those with the most experience not only went to school, but were immediately put in part-time jobs.

Each class has approximately 80 hours' training, after which "graduates" are immediately put to work in dealers' shops. Men or women who show special proficiency in any single type of work will be allowed to "specialize" upon graduation, but all learn the fundamentals of repairing gas appliances before beginning specialization.

Since the success of the plan in northern California, other areas now plan similar courses, according to Jared A. Hill of the Pacific Gas & Electric Company, San Francisco.

Officials Assist

The Plumbing Contractors' Assn. of Chicago has been cooperating with the Bureau of Water Pipe Extension of the


WHERE ALL UNITS ARE RENTALS-- HEADER IS TO BE INSTALLED INSIDE OF FRONT WALL WITH WHEEL VALVE TO CONTROL EACH UNIT.
8" WATER MAIN
BLDG. LINE
1½" METER INSIDE CURB
8" WATER MAIN
CENTER OF STREET
1" LINES
8" WATER MAIN

Three of the typical drawings showing water supply piping for defense housing in Chicago

Public Works Department, and particularly with Chief Plumbing Inspector John G. Mitchell, who has been active in the enforcement of the water ordinances and interpreting their provisions for master plumbers.

For FHA defense housing, the Bureau of Water Pipe Extension, through Supt. W. B. Cullen, Engineer J. B. Eddy and Mr. Mitchell, has approved piping plans for different sized houses from single to 14-unit sizes.

Baltimore Meeting

The Progressive Assn. of Master Plumbers of Baltimore met for an oyster roast, on November 14, in the office of Emil J. Gail, president of the Maryland Plumbing Commissioners. About 125 persons attended and participated in an informal discussion on trade conditions, under the direction of Pres. Leon W. Walker.

Wartime Code

The Los Angeles Board of Building and Safety has adopted resolutions providing for emergency wartime revision of the municipal code dealing with cast iron cleanout plugs and black iron pipe hangers.

The resolutions grant permission to install cast iron cleanout plugs within the city for the duration of the war, provided the plugs comply with ordinance requirements as to size, threads per inch, and that they are coated with an approved permanent lubricant.

The use of black hangers is permitted for the duration, provided such strap hangers are not less than 20 U. S. standard gauge and not less than three-quarter inch in width.

Chicago Party

The North and West Side Master Plumbers Pleasure Club, of Chicago, held its keno and turkey party at its club rooms the evening of November 24. About 100 members, their families and friends were present, as well as several supply house representatives. Refreshments were served.

Joint Meeting

The North Carolina section of the American Society of Heating and Ventilating Engineers, the Raleigh, N. C., Engineers Club and students in mechanical engineering at Duke University, Durham, N. C., and North Carolina State College, Raleigh, held a joint meeting at Raleigh, October 30, when they were addressed by E. O. Eastwood, of Seattle, Wash., president of the American Society of Heating and Ventilating Engineers and director of the Guggenheim Aeronautical Laboratories at the University of Washington.

Arranging the meeting were E. R. Harding of Greensboro, president of the North Carolina section; L. L. Vaughan of Raleigh, vice president; and E. S. Theiss and F. J. Reed, of Durham, and R. B. Rice, members of the meeting committee.

Los Angeles Dance

Approximately 150 members, guests and friends of the Los Angeles Master Plumbers Assn. attended the pre-Thanksgiving dance held November 21 at the association's headquarters. Preston Freeman served as entertainment chairman.

ASHVE to Meet

The forty-ninth annual meeting of the American Society of Heating and Ventilating Engineers will provide a forum for the exchange of vital engineering information, according to Pres. E. O. Eastwood, Seattle. The meeting will be held January 25-27 at Hotel Gibson, Cincinnati.

A streamlined program on wartime subjects has been planned, including discussions on fuel conservation, food dehydration, manpower problems and warship ventilation. "How to Keep Fit in Cold Homes" will be the feature of one session.

Four technical sessions are scheduled, as well as papers covering heating plant operation with reduced night temperatures, resistance of various building materials to vapor transmission and performance of air duct outlets.

The Cincinnati chapter will be hosts, and three social events have been planned. There will be a joint meeting with the Cincinnati Engineer's Club at noon Monday; a get-together dinner and ice show Monday evening, and the annual banquet Thursday night.

W. C. Green is honorary chairman, and Albert Buenger is general chairman. Other committee members are: A. L. Hard, vice chairman; G. V. Sutfin, secretary; W. H. Junker, finance; K. A. Wright, publicity; Mrs. G. B. Houliston, ladies; I. B. Helburn, banquet; G. B. Houliston, entertainment; H. E. Sproull, reception; W. W. Edwards, transportation; and M. E. Mathewson, inspection trips. Registration starts at 10 a. m., January 24.

Discusses Codes

Jesse Davis, chief inspector of the Los Angeles County Plumbing Inspection Division, was the principal speaker at the meeting of the Pacific Coast Plumbing Inspectors Assn. held November 20. He talked of plumbing codes and their relation to the war effort.

A quiz program, directed by Ted Waite, dealt with questions pertaining to the Los Angeles water pipe code, the emergency plumbing code and the gas code, all sponsored by the association.

Equipment Pool

To place vital materials and equipment where they are most needed, the Chicago Plumbing Contractors' Assn. has established a material exchange in which master plumbers are requested to list their surpluses with the secretary's office. This excess material and equipment will then be utilized by someone who needs it. Master plumbers who have pipe cutting and threading machines from one-half inch to two inches and up for which they have no immediate use are especially requested to help.

Business Clinics

The first in a series of business clinics designed for the plumbing industry, sponsored by the Los Angeles Merchant Plumbers Assn. and the Los Angeles Board of Education, was held recently. H. D. Pease, Los Angeles representative of the U. S. Department of Commerce, directs the meetings.

Harvey Roney, price specialist, and E. B. Boileau and Richard Drukker, price attorneys for OPA, gave the lectures at the initial meeting.

ASRE Officers

Charles R. Logan, representative of the Superior Valve & Fittings Company, of Pittsburgh, was inducted as president of The American Society of Refrigerating Engineers at the society's thirty-eighth annual meeting in New York City, December 2. He succeeds Dr. William R. Hainsworth, vice president of Servel, Inc.

Other new officers are: A. B. Stickney, engineer with Armour & Company, Chicago, and John F. Stone, manager of the Refrigeration Division, Johns-Manville Corporation, New York City, vice presidents; and John G. Bergdoll,

Worth Knowing About
We are not able to take on too many new outlets today because of government requirements and our first obligation is to serve those already established to the best of our ability. In making your plans for future lines, we hope you will inquire about the Mansfield Line -- its extensive advertising program, liberal selling aids, and profit possibilities. If you are located east of the Mississippi River, we'll be glad to have you write us for our latest catalog and full details, or ask your jobber's salesman.
MANSFIELD SANITARY POTTERY, INC.
PERRYSVILLE, OHIO
Classic
Mohican
Simplex
Euclid
Vanity
MANSFIELD
Quality
VITREOUS CHINA

Jr., chief engineer of the York Ice Machinery Corporation, York, Pa., treasurer.

Directors elected for three-year terms are: Charles S. Leopold, consulting engineer, Philadelphia; Lee C. Leslie, Johns-Manville Corporation, Philadelphia; Nels Rosberg, production manager, California Consumers' Corporation, Los Angeles; Arthur B. Schellenberg, president of the Alco Valve Company, St. Louis; and J. Mack Tucker, University of Tennessee, Knoxville.

Chicago Ordinance

A new ordinance establishing a Housing Board of Appeals to enforce minimum housing standards in Chicago has been introduced in the City Council. This ordinance authorizes the creation and establishment of a Housing Board of Inspection which shall consist of the president of the Board of Health, the Commissioner of Buildings, Commissioner of Public Works, Commissioner of Streets and Electricity, Commissioner of Police, Fire Commissioner, and the chairman of the Housing Committee of the City Council, who would serve as chairman of such board.

The ordinance was introduced mainly at the instigation of the Metropolitan Housing Council. It is designed primarily as a measure of economy and is also to avoid duplication of inspection. Contrary to the opinion of most master plumbers, proponents of the ordinance believe that one inspector will do a satisfactory job of inspecting all parts of the construction—even sanitary conditions and plumbing.

New York ASHVE

The New York chapter of the ASHVE held its regular monthly meeting October 19, with Merrill F. Blankin, first vice president, as speaker. His subject was "Modern Practice in Hot Water Heating." The meeting was held in the Building Trades Club, New York City.

New CMP

(Continued from page 55)

sumers and retaining such records for two years;

(8) Reporting promptly to the claimant agency in every case where he is unable to use the full allotment for the authorized schedule as originally planned.

Each secondary consumer is responsible to his prime consumer in the same manner in which the prime consumer is responsible to the claimant agency.

The plan starts actual operation in 1943. By January 15, the controlled materials divisions will have analyzed their requirements, and on February 1 the Requirements Committee will make allotments of controlled materials to claimant agencies for the second quarter of 1943. By March 15, users of controlled materials will have placed their authorized orders for April delivery with their prime consumers. It is expected that the plan will be in complete operation for third quarter production.

The above discussion describes the essence of the plan in its application to the production of items of warfare such as tanks, guns, ships, etc. These items are called "A" products. A long list of other products and equipment, described as "B" items, go through a slightly different procedure. Practically all plumbing, heating, air conditioning and allied products are listed as B items. And, since production of "B" products for civilian needs is under the jurisdiction of the Office of Civilian Supply, it will readily be seen that OCS is the key claimant agency as far as our industry is concerned.

Bills of Material

To prevent duplication of functions among claimant agencies and to permit rational programming of Class B products, the following provisions will govern the preparation of requirements, compilation of bills of material, and the issue of allotments of controlled materials for Class B products:

(a) Except for the Office of Civilian Supply, each claimant agency shall prepare its requirement estimates for Class B products in number of units or in dollar values as may be agreed between that agency and the Office of Civilian Supply; and submit the same to the Office of Civilian Supply at least one month before requirements are to be submitted by the Claimant Agencies to the Controlled Materials Divisions and the Requirements Committee;

(b) The Office of Civilian Supply shall have primary responsibility for the compilation of bills of materials or any other approved basis for determining requirements of controlled materials for Class B products but shall obtain such information from industry only through the appropriate *Industry Divisions*—in our industry's case, the *Plumbing and Heating Division.*

(c) In cooperation with the other claimant agencies, the Office of Civilian Supply shall translate requirements for Class B products into requirements for controlled materials which must be provided from the allotment of each agency in each relevant time period;

(d) If no fabrication bottleneck exists, the industry branch (Plumbing and Heating Division, for our industry) with the approval of the claimant agencies, shall devise an authorized schedule to meet the total requirements of the claimant agencies for those plants which are to produce the specified product and issue allotments of controlled materials to prime consumers, charging these allotments against such agencies in amounts as agreed or as determined by the Vice Chairman;

Revised Programs

(e) If requirements exceed the capacity of fabrication facilities, each agency shall revise its affected programs and schedules so that its requirements fall within its share of such Class B products as agreed or as determined by the Vice Chairman. Allotments shall then be issued by the industry branch to prime consumers as described above;

(f) A claimant agency, on application to the vice chairman, may be given authority to schedule the production of such agency in any plant.

In addition to control of the products in the B list, the Office of Civilian Supply also exercises an important function in the two most important activities in which our industry's products are consumed: new construction, and maintenance and repair. On construction, each claimant agency classifies its requirements for controlled materials in the following categories: 1. Production programs (tanks, guns, etc.); 2. Construction and facilities; 3. Industrial maintenance, repair and operating supplies. It is obvious that most of the products of our industry will fall in Classifications 2 and 3.

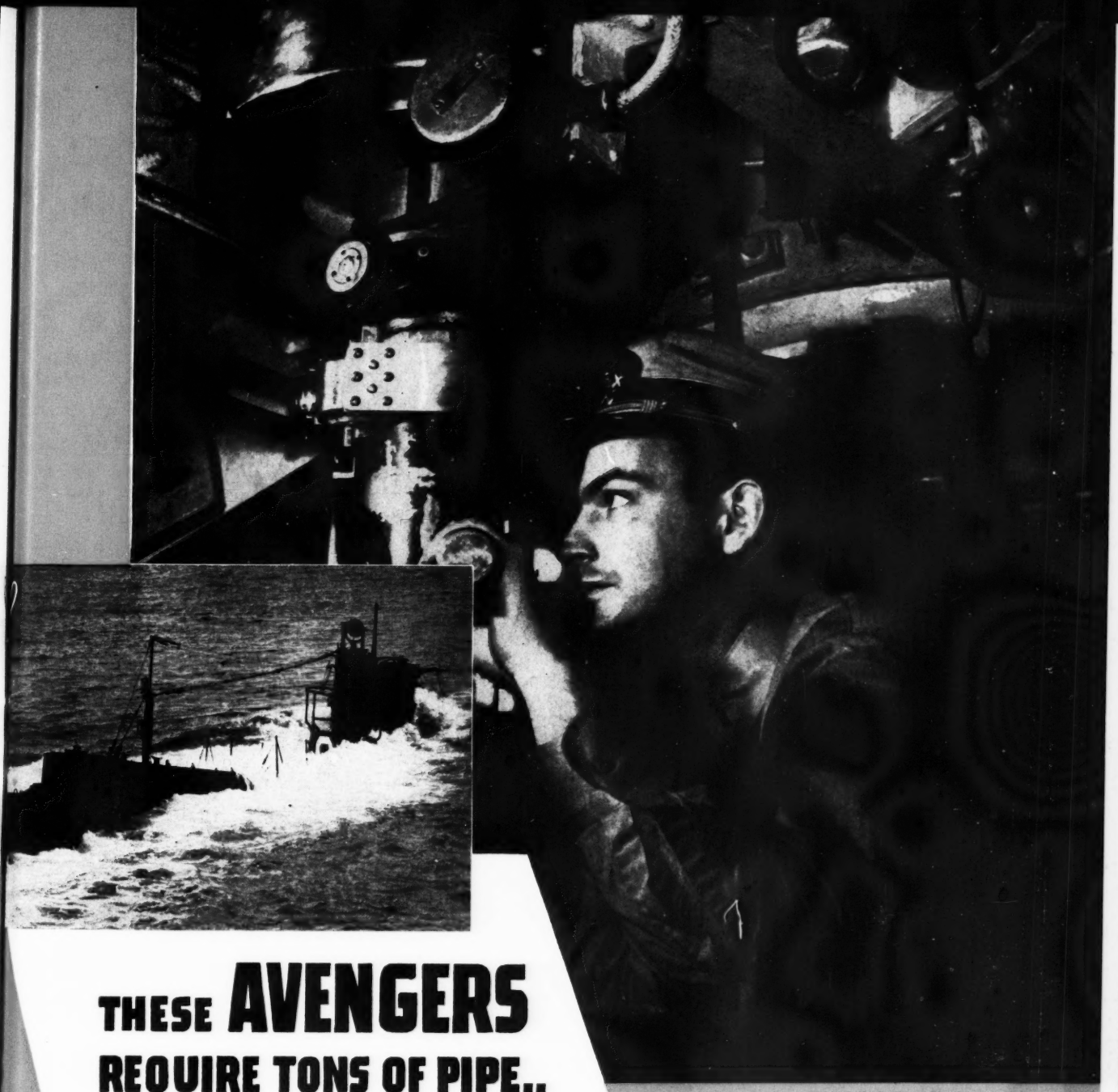
Repair Needs

For maintenance, repair and operating supplies, all of the claimant agencies submit estimates for the needs of those plants and establishments which are owned and operated by them. This would obviously include a government-owned ordnance plant as under the jurisdiction of the War Department. *All other requirements for maintenance, repair and operating supplies will be presented (to the Requirements Committee) by the Office of Civilian Supply, or by Lend-Lease or by the Board of Economic Warfare.*

Succeeding issues of DOMESTIC ENGINEERING will describe the allotment procedure for maintenance and repair and new construction in greater detail.

In the new setup the Plumbing and Heating Division has an important part to play. At the outset, it is evident that the Division is the only agency in position to advise the Office of Civilian Supply regarding material needs for plumbing and heating. As a matter of fact, the Plumbing and Heating Branch becomes an agency of the Office of Civilian Supply insofar as the functions of the Controlled Materials Plan are concerned.

Thus, manufacturers will continue to



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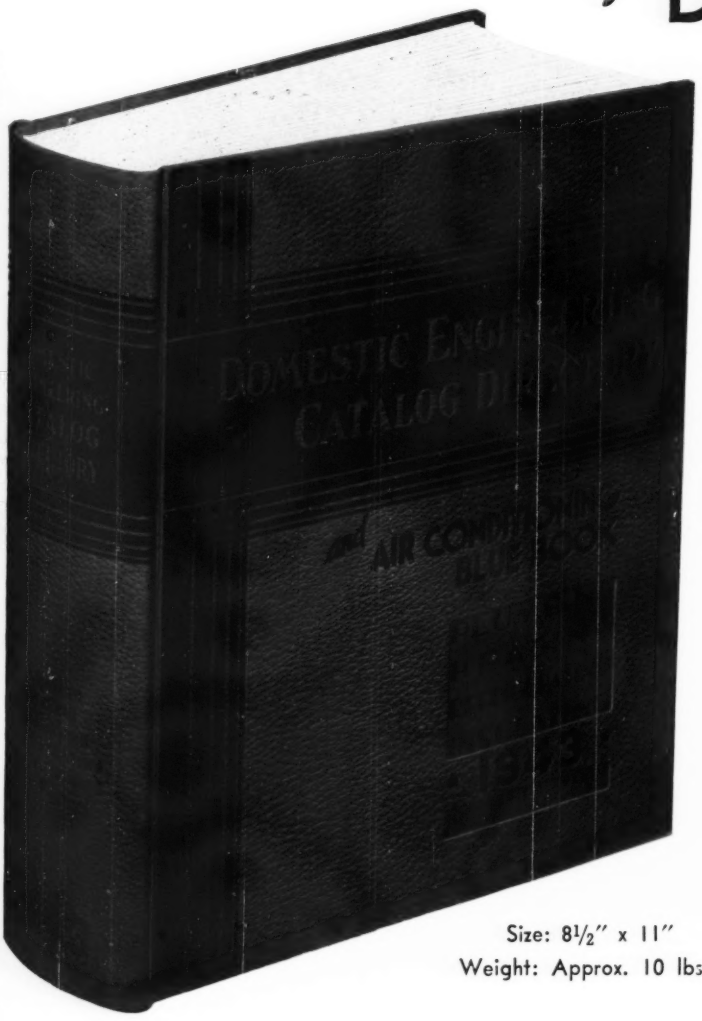

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present their estimates of needs to the Division in much the same way that they now present such estimates through the Production Requirements Plan.

But the Division will not be working in the dark as far as the total material supplies, and total demand are concerned.

The Controlled Materials Plan governs Class B products for civilian needs only up to the time when these products are manufactured. It does not govern the distribution of essential civilian products.

If some means were not found to govern such distribution, sale would return to the catch-as-catch-can basis.

To take care of this need, the priorities system is already in operation and will be continued in effect. Thus, priorities should continue to be important so far as distribution is concerned.

The Controlled Materials Plan recognizes the need for warehousing adequate inventories, and warehousing is considered as part of the supply system. The part of wholesalers in the new system will be discussed in later articles and reports on the plan.

Ill. Convention

The golden anniversary convention of the Illinois Master Plumbers' Assn. will be held at the Palmer House in Chicago, January 18, 19, 20 and 21, 1943.

Meeting wartime and post-war problems will be discussed during the convention, as suggested by the convention keynote—"Planning for the Days Ahead!"

Obituaries

William N. Billings

William N. Billings, Nashville, Tenn., for many years manager of the Nashville branch of W. A. Case and Son, died recently. His wife and two daughters survive.

W. A. Doremus

W. A. Doremus, plumbing and heating contractor and lifelong resident of Passaic, N. J., died recently at his home there. Three daughters survive him.

John E. Gray

John E. (Ed) Gray, president, Gray & Tomppert Co., Inc., plumbing and heating engineers, died at his home in Louisville, Ky., recently. He started in the plumbing business as an apprentice 45 years ago. He is survived by his wife and a son, Calvin, formerly in business with his father, now a naval engineer.

Marion H. Loring

Marion H. Loring, 76, well-known plumbing and heating engineer of Memphis, Tenn., died recently. For several terms he was city plumbing inspector.

Michael J. McCarthy

Michael J. McCarthy, 69, 2000 Connecticut Avenue, N.W., Washington, D. C., plumbing contractor, died October 18. For many years he was with the Great Lakes Construction Company of Chicago. His wife survives him.

Linus H. Tyler

Linus H. Tyler, for many years a plumbing contractor in Santa Monica, Calif., died recently. His wife and one daughter survive.

David W. Haering

David W. Haering, 34, president of D. W. Haering Company, Inc., Chicago, died recently. He was an authority on scale and corrosion.

Walter D. Price

Walter D. Price, Amherst, O., retired plumbing contractor, died recently. Until retiring six years ago, he was connected with the Price, Dreher & Welker Co. Two daughters and two sons survive him.

John M. Fickling

John M. Fickling, 53, Los Angeles plumbing contractor, died recently. Survivors include his wife, a son and a daughter.

Lewis A. Quigley

Lewis A. Quigley, 54, for seventeen years water superintendent at Fort Worth, Tex., died recently.

James H. Minter

James H. Minter, Martinsville, Va., plumbing and heating contractor, died recently at his home. Surviving are his wife, two sons, two daughters, four brothers and two sisters.

Richard Wenzel

Richard Wenzel, 73, Milwaukee, for 48 years a plumbing and heating contractor, died recently. He was president of Wenzel & Henoch Co. Surviving him are his wife; a son, Eugene, who was associated with his father in business, and one daughter.

L. W. C. Tuthill

L. W. C. Tuthill, head of the Tuthill Adv. Agency of Chester, N. Y., died October 27. He had become favorably known to many in the heating industry because of his many years in advertising and sales promotion work for the Burnham Boiler Corp., of Irvington, N. Y.

Volney Streeter

Volney Streeter, 72, well-known Crockett, Tex., plumbing contractor, died recently. His wife survives him.

William D. Atkins

William D. Atkins, Schenectady, N. Y., master plumber, died recently. He was a member of the Schenectady Master Plumbers Assn. and was twice vice president of the state association. He is survived by his wife and one daughter.

Charles H. Watkins

Charles H. Watkins, 76, died recently at his home near Belvidere, N. J., after moving there recently from Newton where he had been a plumbing contractor for 50 years. Surviving are his wife, two daughters, one step-daughter and a brother.

Dugald MacDougall

Dugald MacDougall, 78, for many years a plumbing contractor in Madison, N. J., died recently. Surviving are his wife, a brother, and a son, Kenneth R., who for the past year has owned his father's business.

Convention Dates

December 1 and 2—ASRE—Annual meeting of the American Society of Refrigerating Engineers; to be held in New York City with headquarters at Hotel Commodore.

December 2, 3, 4—NAM—National Assn. of Manufacturers; to be held in the Waldorf-Astoria Hotel, New York City.

December 8 and 9.—WAH & AC.—Annual convention of the National Warm Air Heating and Air Conditioning Association; to be held at Hotel Cleveland, Cleveland.

December 17—HI-JINKS—Annual Christmas Hi-jinks of the Plumbing and Heating Club of San Francisco; to be held at the Palace hotel.

January 18-21—MPA—50th anniversary convention of the Illinois Master Plumbers' Assn.; to be held at the Palmer House, Chicago.

Jan. 25-27, 1943—ASHVE—The 49th annual meeting of the American Society of Heating and Ventilating Engineers; to be held in Cincinnati with headquarters at Hotel Gibson.

Manufacturers & Wholesalers

500 at Dinner

With more than 500 members of the plumbing and heating industry in attendance, the annual dinner-dance of the Jobbers Credit Assn. was held on November 14 in New York City. This occasion has always been one of the best attended social meetings of the industry and this year's gathering was successful as usual.

The Jobbers Credit Assn. has its membership among wholesalers in the metropolitan New York and nearby areas. This year its activities are being directed by the following officers: Milton M. Goldsmith of Sam S. Glauber, Inc., president; Michael Weinsier of Saltser & Weinsier, Inc., first vice-president; second vice-president, T. W. Powers of Cornell & Underhill, Inc.; treasurer, Julius Klein, N. Y. Plumbers' Specialties Co., Inc.; executive secretary, Glenn B. Van Buren.

Working with these officers are the following members of the board of directors: E. E. Basch, Regent Plumbers Supply Co., Inc.; A. M. Behrer, Behrer-Nason Co., Inc.; Paul R. Berryman, Crane Co.; Julius Buckman, Buckman Plbg. Supply Co., Inc.; Jacob J. Friedman, Chas. F. Guyon, Inc.; J. G. Goldberg, Michael & Goldberg P&H Supply Co., Inc.; Milton C. Goldsmith; T. Arthur Johnson, J. D. Johnson Co., Inc.; Julius Klein; J. J. Levine, J. L. Plumbing & Heating Supply Corp.; George J. Meyer, Conran Supply Co., Inc.; E. J. Morris, Grinnell Co., Inc.; Leo M. O'Neil, M. O'Neil Supply Co., Inc.; T. W. Powers; Edward Sherman, Edward Sherman Supply Corp.; Michael Weinsier.

The November dinner dance was in charge of a special committee headed by Mr. Berryman. He was assisted by Messrs. Behrer, Bash, Buckman, Goldberg, Johnson, Klein, Levine, O'Neil, Powers, Sherman, Weinsier and T. W. Bieder of Westchester Square Plbg. Supply Co., Inc.; B. S. Davis of Davis & Warshow, Inc.; Mortimer H. Smolka of Smolka Co., Inc., and Robert Smolka of Sam S. Glauber, Inc.

Anthracite Research

The largest research program ever undertaken by Anthracite Industries, Inc., is now being planned, Pres. Frank W. Earnest, Jr., has announced. One of the major objectives is the development of inexpensive auxiliary equipment to improve the efficiency and convenience of equipment now using anthracite.

Manufacturers will cooperate with the industry in developing, designing and improving boilers, furnaces, tank heaters, stokers and similar equipment. Thus, the industry will be prepared to take its place in post-war reconstruction during the anticipated building era.

Field representatives will intensify their work in dealer assistance, also, and specific help will be given with the rapidly growing problem of converting from other fuels to coal. Efforts to assist plumbing and heating contractors will definitely be maintained. Advice and consulation with government agencies having to do with defense housing and housing of the armed forces will be provided, also.

50th Anniversary

In observance of his golden anniversary as a business man, A. A. Tomlinson, president of Tomlinson Co., Inc., Richmond, Va., was honored by his company at a dinner and dance at the John Marshall hotel, November 3. About 250

A. A. Tomlinson

guests, representing all branches of the plumbing and heating industry, attended.

Mr. Tomlinson started in the business world in October, 1892, as assistant to the bookkeeper for the Speakman Co., Wilmington, Del. He has been connected with and organized several companies and, in April, 1922, organized the company which bears his name. Since the organization, three branch offices of the company have been opened.

RFC Warranties

The Accessory group of the Oil-Heat Institute of America, Inc. (Oil Burner Institute), met in New York City, November 9, to discuss recommendations to the Accessory Manufacturers whereby the Reconstruction Finance Corporation might enjoy the benefit of extended warranties in instances where RFC might purchase or loan on frozen oil burner stocks.

Resolutions Adopted

Following the discussion, the following resolutions were adopted in an effort to satisfy RFC with regard to any oil burners it may purchase or finance:

1. At the time of purchasing or finance by RFC, the accessory manufacturers shall be furnished with the serial numbers of the burners as well as the part numbers, or other acceptable means of identification, of the accessories involved.

2. That the accessory manufacturers extend to the original purchaser a warranty of twelve months from date of installation of burner, provided that within ten days from the date of installation the accessory manufacturer be furnished with requested information, such as serial numbers, name of company making installation, etc. This information will be supplied by the installer and returned to the manufacturer so that he can notify accessory manufacturers.

3. That all returns, claims and exercises of the warranty must be in compliance with the standard requirements of each accessory manufacturer's own warranty. Any equipment returned to the manufacturer for replacement or repair under the warranty must be accompanied by the serial number, name and address of the owner of the burner, and description of the alleged defect.

4. That in no case shall the warranty extend for longer than fourteen months from the unfreezing of oil burners or cessation of hostilities; whichever contingency shall first occur shall establish the date for this cessation of warranty.

5. All burners acquired by RFC for a loan or direct purchase must be properly storaged with due regard for proper warehousing and incident damage from carelessness in placing the burner under unfavorable conditions must be strictly adhered to or all guarantees are voided.

6. It is understood that these suggestions extend to the relationship between the manufacturer of the oil burner and the accessory manufacturer and are not to be construed as an extension of the warranty or maintenance of the guarantee by the accessory manufacturer to the RFC.

Heat Rays

A timely subject—"Heat Absorption Properties of Paints"—was discussed at the November 4 meeting of San Francisco's Golden Gate chapter, ASHVE. The speaker was Oliver W. Johnson, a member of the chapter's board of governors. He was introduced by Vice Pres. Rolfe A. Folsom.

The speaker explained the nature of sunlight as consisting of various color rays, from ultra-violet to infra-red. The former, he pointed out, cause sunburn, while infra-red—or heat rays—produce radiant heat. The speaker then explained the reflection of light from various colored surfaces. White, said Mr. Johnson, absorbs 25 per cent of light, and black 90 per cent; therefore, any of the light rays absorbed by colored surfaces becomes heat.

An experimental method of measuring the absorptive qualities of various colors was also explained. By way of summarizing his remarks, Mr. Johnson pointed out that structures can be painted to absorb or reflect heat.

More awards go to our industry—right (top to bottom): International Nickel Company, Inc., receives the Army-Navy "E" production award with two stars at its Huntington, W. Va., plant, as A. S. Shoffstall, general manager, receives the flag from Capt. T. J. Bay, U. S. Navy Bureau of Ships • Brig. Gen. H. C. Minton and A. E. Walker, National Supply Co., president, display the "E"; • Radford R. Crane, vice president of Eljer Co., with Jesse Eisenhuth, treasurer, local section of the National Brotherhood of Operative Potters and Raymond E. Crane, Eljer's president, as Eljer Co. receives the Minute Man award for employee bond purchases; •Todd Combustion Equipment, Inc., earns the "E" flag, and John D. Reilly, president of the Todd Shipyards Corporation; J. Herbert Todd, a vice president; J. McDonald (center), president of Todd Combustion Equipment, Inc., and James Drummond, machinist, display the award. • Directly below: W. D. Russell, president, Airtemp Division, Chrysler Corporation, accepts the coveted production "E"

Ductwork . . . .

(Continued from Page 72)

with fireproof construction but, if desired, the methods shown for fireproof ductwork also may be used for non-fireproof work simply by substituting the non-fireproof sheets. A greater economy in metal usage, however, will be secured by employing the methods illustrated in the following. One of the chief difficulties which must not be forgotten in designing this type of duct is that the last joint, or closure, must be arranged in such a manner that it may be made **from the outside of the duct.**

In the first place "L" shaped corner strips must be used to furnish a backing against which the two sides of the duct can be nailed. By "sides" is meant a top plate and side plate or a bottom plate and side plate. The method shown in Fig. 8 deserves a little study; here the corners are formed by a piece of ⅞ in. x 2 in. strip to which is nailed a strip of ⅞ x ⅞ in. square material and the two sides and bottom may be made up in the shop or on the floor; the top piece is nailed to the ⅞ x ⅞ in. strip on both edges and dropped into position on the top where it can be nailed through the ⅞ x ⅞ in. pieces into the ⅞ x 2 in. strips on each side.

In larger sizes of ducts a bracing may be required to the top and bottom plates in which case a piece of ⅞ x ⅞ in. is nailed to the top and/or bottom, as illustrated at the top of the duct shown in Fig. 8. Then a ⅞ by 2 in. brace is run across the duct so as to rest on the side strips and is nailed there as indicated. If the duct is large enough to require bracing on all four sides, this method is repeated on each side. The ⅞ x ⅞ in. pieces must be attached to the plates before the top is put on. After the top is in place this can be nailed through into the brace in the final nailing.

Transverse joints are made with a brace all around at each joint to keep the ducts squared up and to prevent distortion. The ends of the plates are nailed to ⅞ x ⅞ in. strips around the four sides and set about $\frac{5}{16}$ in. from the end. When erected these strips are nailed to the bracing leaving ¼ in. between the ends of the plates as shown in Fig. 9. The nailing to the brace is the final nailing after the brace has been nailed to the corner strips. The supporting of such ductwork is comparatively simple in a non-fireproof building for all that is required are supports placed every eight or ten feet and made up of ⅞ x 2 in. strips attached to the bottom and top strips with screws. These are then run up to the flat ceilings, or wood girder, to which blocks have been nailed and to which blocks the supporting strips are attached with screws. A typical example of both types of hanger is given in Fig. 10. Branches and elbows may be built in any of the ways already illustrated for fireproof duct construction by simply substituting the wooden framework in place of the metal strips used for corners and transverse joints.

Outlets from the ducts may be constructed with deflectors, as shown in Fig. 11, when located in the bottom of the duct. Here a round hole is cut in the bottom of the duct and surrounded by a ⅞ x 2 in. frame, two sides of which are formed by the braces and to which the deflector is attached. The frame for the deflector is simply ⅞ x 2 in. strips beveled to a 45 degree angle on one corner and forming a hollow square to which the deflector plate is attached. The hangers for the plate also are attached to this same frame. Adjustment is secured by raising or lowering the plate and changing the length of the hangers to suit. Side outlets may be provided with wooden grilles with fixed louvres as adjustable louvres are difficult to construct and where these are required metal grilles will have to be substituted. The wood louver may be made up as shown in Fig. 12 with the openings 3 in. long or any larger dimension up to 12 in.

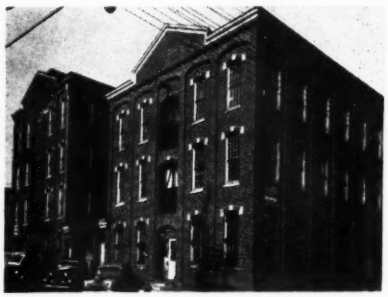
News Briefs . . .

Harry E. Carloss, Memphis, has been appointed sales manager for **The Deming Company,** Salem, Ohio, succeeding Harold E. Stiver who died in July. Mr. Carloss has sold the Deming line in the Memphis territory for the past fifteen years. George E. Trisler, who has

Harry E. Carloss

been in Deming's sales department for several years, has been appointed assistant sales manager.

The Seat Division of **Swedish Crucible Steel Company,** Detroit, has announced the appointment of two new representatives—George Lucke, 2301 North Charles St., Baltimore, for Maryland and the District of Columbia, and Paul Harrell, Greensboro, N. C., for North and South Carolina and Virginia.



New home of National Pipe Supply Co., Philadelphia, located at Hancock and Somerset Streets

Josam Manufacturing Company has announced the appointment of W. S. Allen to the office of vice president in

W. S. Allen

charge of sales and advertising. Mr. Allen has long experience, in a sales promotion capacity, in our industry.

Prof. Walter S. L. Cleverdon, formerly on the staff of the civil and mechanical engineering departments of New York University, announces his retirement, having reached the age of 65 years. His home is at 33 Desham Ave., Bronxville, (Yonkers) N. Y.

Research Products Corporation, Madison, Wis., has appointed the following sales representatives: Haynes Selling Co., Inc., Philadelphia; Gene O'Reilly Sales Co., Minneapolis; Colby Equipment Co., Indianapolis, and Guy W. Hale, Cleveland.

Wade Murphy, for the past ten years assistant general manager of the eastern zone for Minneapolis-Honeywell Regulator Company, Minneapolis, has been named special assistant to Thomas McDonald, vice president of the company's new electronics plant at Chicago. Mr. Murphy's duty will be to coordinate the new plant's departments.

News of Women . . . . .

Merry Christmas!

Following are yule messages from three officers of the Women's Auxiliary to the NAMP—Mrs. W. E. Miller, president, Washington, D. C.; Mrs. William E. Wolff, secretary, Arlington, Va., and Mrs. Edward Frank, treasurer, Cincinnati. DOMESTIC ENGINEERING, too, joins in sending every auxiliary member the good wishes and sentiment expressed in these messages, both during the holiday and the year to come.

To many of our dear members this will be a sad Christmas, and I salute the courage of those whose loved ones are far away in unknown places, and to those of you whose loved one is numbered among the missing, I extend my deepest sympathy. Remember they have given their all in the cause of freedom, and would not have it otherwise, that peace on earth and good will to all men may again be our joyous song. Remember too that it is our privilege to carry on, not with tears, but with a smile on our lips and courage and good will in our hearts, as they would have us do.

And so, I wish you happiness at Christmas, and faith and renewed hope in the new year.

Mrs. W. E. Miller, President,
Women's Auxiliary, NAMP.

Now begins anew the most solemn and meaningful day of the Christian year. At Christmas time men and women of Christian belief share again the richness and grandeur of their faith. The Christmas season is always a happy period to extend kindness toward others. We know it is human to err and if we have benefited by our mistakes, then we should feel inspired to go forth and do good. We cannot measure success by material gain, but rather by friendships and the happiness we bring to others. Our primary responsibility now is to win the war, but we must keep in mind that even during the war as well as during the peace which follows, the character of America must be kept on a high plane. I wish to one and all an exceptionally Merry Christmas and a new year filled with joy and boundless blessings.

Mrs. Edward Frank, Treasurer,
Women's Auxiliary, NAMP.

Christmas is a spirit within, that to be real and meaningful, must be kept secure and bright in one's heart and soul, in spite of all of the insecurity and darkness of today's world, without. The Christ of the first Christmas was born in times of terror, much like our own. He came to bring peace and good will to men of all times. As of old, His spirit will be born again this Christmas in hearts and minds that can become mangers of humility that will cradle Him and His principles. In the midst of your Christmas festivities, may you rekindle your Christian faith, that will make the season spiritually genuine for you and fortify your life for all the days ahead.

Mrs. William E. Wolff, Secretary,
Women's Auxiliary, NAMP.

THE BEST WAY TO CONSERVE
AMERICA'S FUEL SUPPLY
IS TO KEEP Thrush Equipment FUNCTIONING
KEEP 'EM WORKING
No. 4 Thrush Pressure Relief Valve
THRUSH WATER CIRCULATOR
FUEL is going to be a problem this winter. All kinds of fuel. Fortunate are the heating plants where Thrush equipment has been installed—for the owners of those homes are sure to get the utmost heat from a minimum of fuel. Your partiotic duty (and ours) is to keep Thrush Equipment operating at top efficiency. Our representatives are engineers and service men, ready to assist you in giving home owners longer and more satisfying service from Thrush Equipment. Tell us how we can help you.
H. A. THRUSH & CO., PERU, INDIANA

Box Luncheon

A box luncheon at the close of the business meeting was the highlight of the regular meeting of the Women's Auxiliary to the Master Plumbers' Assn. of Philadelphia, held November 5 in Red Mens hall.

Plans for the Christmas party, to be held December 3, were discussed. At the December meeting there will also be election of officers for 1943.

Cincinnati Luncheon

A luncheon for members of the Cincinnati Women's Auxiliary was held recently at the home of the active vice president, Mrs. Fred Nemann. Mrs. H. J. Vonderheide, president, had charge of the business meeting which featured suggestions for building up the organization. The necessity for buying war bonds and stamps was also stressed. A social hour followed the business meeting, with Miss Emma Niesen and Mrs. Edward Frank acting as assisting hostesses.

Senators

(Continued from Page 66)

To the Editor:

There is one aspect of fuel conservation which seems to me worthy of more emphasis than it has received.

City or county officials, customers and reputable heating maintenance men have an equal interest in preventing the operation—especially in time of war—of unscrupulous individuals who, according to reports, have been doing nice paint jobs on heating units but inexcusably inferior jobs behind the paint, and then charging exorbitant sums for their dishonest "services."

All of us are aware of shortages of both labor and materials. But it is the duty of a maintenance man and the contractor for whom he works to advise their customers honestly of real shortages; certainly it is not their right to proceed with dangerously and dishonestly inadequate jobs, which may seriously impair health, at a wholly unjustified cost to a public already financially overburdened.

Public officials and honest heating technicians actually welcome suits in the public courts against such disgustingly unprincipled bullies, even when customers are able to make satisfactory resettlement without resorting to court procedure.

For a crime based upon taking advantage of citizens in abnormal circumstances is a crime against the public interest and the public welfare. I should strongly urge that every victim of such cowardly profiteering make his complaint officially and publicly, thereby guaranteeing increased protection to others who might otherwise become victims themselves.

With appreciation of your affording me this opportunity to address your readers, I am,

Raymond E. Willis,
Senator from Indiana.

To the Editor:

I wish to thank you for your letter of recent date and for the October issue of "Domestic Engineering," in which you point out, and solicit comment upon the very delicate fuel situation with which the nation is now confronted. May I say that it is pleasing to note the cooperative attitude which your organization and the heating industry as a whole has taken in regard to this matter?

To me the outstanding service which your periodical can render to the heating industry in particular and to the American people as a whole is to stress the genuineness of this fuel shortage, to offer the best technical advice to home owners on how to achieve the maximum comfort in a home heated at 65 degrees, and to sustain the morale of our people by pointing out that these little sacrifices which we may now make for victory will be as nothing when compared to the privations and suffering which we could expect in an axis-dominated world.

If you could carry out such a program as this, your contribution to victory would indeed be considerable.

James A. Davis,
U. S. Senator from Pennsylvania.

MILVACO MIKE SEZ:

To all our customers and friends we send our most sincere

Greetings

and join with them in their prayers for VICTORY . . . and PEACE.

MILWAUKEE VALVE CO.
MILWAUKEE WISCONSIN

News of Business . . . . .

Steel Boiler Gain

● *Steel boiler shipments show 15.78% increase in nine-month period '42.*

Industrial production (as represented by the Federal Reserve adjusted index) advanced a moderate three points during October—this rise conforming to the familiar pattern of recent months in which durable goods industries have consistently registered the gains. As is to be expected, the largest portion of the production of durable goods industries is required for war purposes—for example, only an estimated 10 per cent of the iron and steel output this year will be available for nonwar uses, whereas last year, roughly two-thirds of a slightly smaller output was available to civilians.

According to reports received from 61 key wholesalers in the plumbing and heating industry, there was an average decrease of 34.17 per cent reported for the month of October as compared with October of last year. For the first ten-month period of 1942, these same wholesalers reported an average decrease of 19.80 per cent. Of these 61 wholesalers, 40 state that they expect business in November to show a decline as compared to November of last year—seven expected it to remain about the same—two expect it to show an increase, and twelve failed to comment.

The South Atlantic States, as in previous months, continue to show the smallest decline—with an 8.99 per cent decrease for October, and a 6.80 decrease for the 10 month period. The largest decrease (43.20) for the month of October was reported by the New England States, followed closely behind by the East North Central States with a 40.43 per cent decrease.

With the exception of steel boilers, shipments of all types of plumbing and heating equipment showed a decrease both for the month of October as well as the nine-month period, as compared with last year. The largest decrease—53.39 per cent—was reported in oil burner shipments for the January through September period as compared to the like period of last year. Shipments of stokers showed the next largest decrease, followed by range boilers. Steel boilers, however, show a 15.78 per cent increase for the nine-month period of 1942 as compared with the same period of '41.

Building Construction

According to the F. W. Dodge Corporation, total construction contracts awarded in the 37 eastern states during the first ten months of this year have exceeded the total 12-month volume of any previous year. The dollar total for all building and engineering work started from January 1 through October 31 was $6,892,161,000 as compared to the previous record year (1929) when $6,628,285,000 in contracts were awarded during the entire year. This record volume for 1942 is comprised mainly of the construction of war facilities. In dollar volume, nonresidential building increased 72 per cent over the first ten months of 1941, residential building volume declined 13 per cent, and heavy engineering construction increased 42 per cent. The October contract total ($780,396,000) was 8 per cent greater than that of the previous month, and 29 per cent greater than the October 1941 figure.

"The current program of the War Production Board," it is stated by F. W. Dodge Corp.," calls for emphasis on end products in 1943 rather than on creation of more new facilities and indicated that construction volume will taper off considerably from the 1942 peak."

One-Third Do 90%

(Continued from Page 45)

ing and heating contractor for each 2,000 persons. Today's door-to-door check revealed that business closings have combined to leave one contractor for each 2,400 persons; these remaining contractors, of course, are serving their customers with a greatly reduced number of journeymen.

The above survey was made by personal calls upon nearly all of the plumbing and heating contractors in the cities. The contractors were asked to list their expected volumes for the year within certain relatively close limits. These estimates were, in turn, checked with leading wholesalers, with other contractors, and with permit records. Thus, the figures for each contractor's volume can be considered reasonably reliable.

Key Wholesalers

	% of change Oct. '42 over Oct. '41	% of change 1st 10 mos. '42 over 1st 10 mos. '41	Better	Same	Worse	No Comment	Total Reports
New England States	—43.20	—26.10	..	..	3	3	6
Middle Atlantic States	—34.22	—16.99	1	2	13	5	21
East North Central States	—40.43	—24.58	..	1	11	3	15
East South Central States	....	....	..	..	..	1	1
West North Central States	—32.71	—28.14	..	..	7	..	7
West South Central States	....	....	..	..	1	..	1
South Atlantic States	—8.99	—6.80	1	3	2	..	6
Mountain States	....	....	..	..	1	..	1
Pacific States	—26.70	—17.93	..	1	2	..	3
Total Reports	—34.17	—19.80	2	7	40	12	61

Shipments of Plumbing and Heating Equipment

	Sept., 1942	Sept., 1941	First 9 Mos., 1942	Percent of Change First 9 Mos., 1942 As Compared to First 9 Mos., 1941
Mechanical Stokers Classes 1, 2 and 3 for domestic apartment and small commercial use Number of Units	8,684	26,720	74,475	—49.32
Oil Burners Number of Units	9,225	34,707	106,698	—53.39
Steel Boilers Number of Units	2,346	1,106	13,307	+15.78
Range Boilers Number of Units	45,224	65,481	404,277	—42.37
Cast Iron Boilers Thousands of Pounds	16,539	37,630	150,987	—27.12
Radiation Thousands of Square Feet	3,773	10,901	50,643	—19.53

BACK OF THE JARECKI YOU BOUGHT BEFORE THE WAR

A RESERVE OF PERFORMANCE . . . TO TIDE YOU OVER THE CURRENT EMERGENCY

● Large or small, every Jarecki Valve has engineered into it a RESERVE of performance made possible by a policy of testing every valve far *beyond* its working pressure rating. Like money in the bank for a rainy day, that RESERVE comes in mighty handy in times of need!

JARECKI MFG CO.

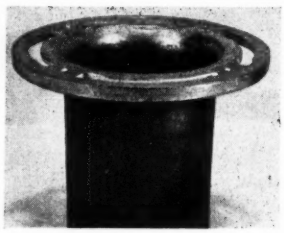
ERIE, PA., U. S. A.

News of Products

Floor Flange

Made of non-critical hard lead, this floor flange is said to expedite plumbing installations . . . save brass . . . and to be strong, non-corroding.

Listed Features: Of a new pattern, this water closet connection has four bolt slots instead of three, with a reinforcing bar between. It is reported that this new pattern allows greater adjustment of bolts than did the previous pattern. It is further stated that it can be soldered to the lead bend in the customary manner, but can also be welded in case tin-lead solder is unavailable.

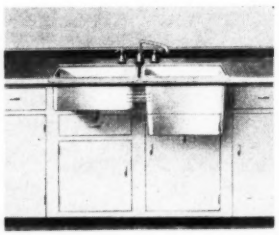


Availability: This water closet connection is not subject to priority orders.

Manufacturer: Lead Industries Association, 420 Lexington Ave., New York City.

Sink and Tray

No critical materials are used in the manufacture of this new vitreous china sink and laundry tray.



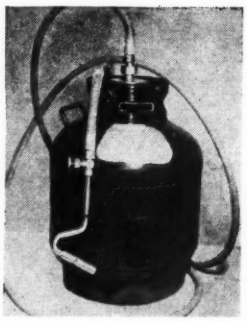
Listed Features: The outstanding features of this new sink and laundry tray, as reported by the manufacturer, are that they are easy to clean . . . acid-resisting . . . impervious to stain . . . and use no "critical materials." Measurements on these pieces are 20 by 18 in. each outside, with the sink being 6 in. deep inside and the laundry tray being 12 in. deep inside.

Manufacturer: Eljer Co., Ford City, Pa.

Welding Torch

To assist in making lead pipe joints without solder, and thus save tin, this special gas torch has been developed featuring a goose neck design with a small composition finger-grip handle, and a convenient control valve.

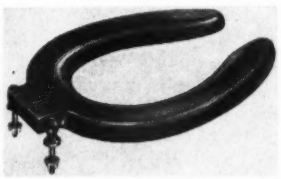
Listed Features: Ideally suited for lead "burning" or welding, this torch is designed to give finger-tip control with a clean blue flame of the right temperature for smooth easy lacing. It is further stated that it is a non-oxidizing flame without any complex adjustments.



Manufacturer: Insto-Gas Corp., 1900 E. Jefferson Ave., Detroit.

Toilet Seat

This new plastic seat, which does not involve the use of critical materials, is reported



to not only have proven equal to the former line of seats, but has many superior features.

Listed Features: This one-piece molded seat is avail-

able in two types: (1) the open front seat with extended back for regular bowl, and (2) the open front seat with extended back for the elongated bowl. These seats are molded into a seamless, one-piece plastic, which is said to be moisture-proof . . . acid-proof . . . oil-proof . . . and non-inflammable. The concealed type hinge posts are of non-corrosive steel covered with plastic, with no metal exposed — perfectly matching the seat. With no applied finish to chip, crack, peel or fade, these natural color plastic seats have been highly buffed to give them a permanent lustre.

Manufacturer: Swedish Crucible Steel Co., 8561 Butler Ave., Detroit.

Plumbing Ware

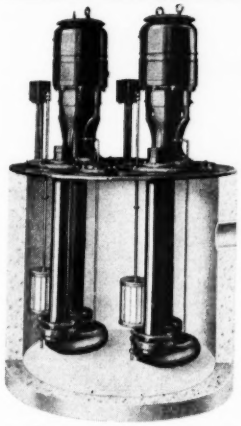
Two new items—a plastic P. O. plug and a strainer—are practical and durable.

Listed Features: The plastic P. O. plug (which is illustrated) has a threaded steel tailpiece. Easily installed, it is necessary simply to put the entire unit, with tailpiece attached, through the top of the basin and make up with the locknut. The finish of this plug is white. The strainer is for sinks with a standard 2½ in. drilling. This strainer which can be used as a sink strainer, a wash tub strainer, for both porcelain

and iron enamel sinks and tubs, has the following features: (a) $3\frac{5}{16}$ in. across the top; (b) 1½ in. IPS outside thread; (c) fine female thread for tailpiece; and (d) same color as sink (white).

Availability: Orders can be filled on low priorities.

Manufacturer: Jonas Haies & Co., 20 Bergen St., Brooklyn, N. Y.



NON-CLOGGING, SCREENLESS TYPE

Economy

Sump Pump

Engineered

FOR OUTSTANDING

Service!

HANDLES Domestic or Industrial sewage, solids or pulpy material quickly and efficiently. Smooth clear passages allow solids and rags to pass without danger of catching and clogging pump. Eliminates disagreeable job of cleaning strainers. Available in single or duplex units to handle from 50 to 4000 G. P. M. The duplex unit shown is recommended when there is danger of heavy overload. ECONOMY Sump Pumps are precision built for long, efficient service. Use ECONOMY'S engineering service to aid you in specifying the correct unit for each job. Write for further information.

ECONOMY'S NEWEST SCV PUMP

The new pump for clear liquid service. 10 to 500 GPM. Sturdily built, durable pump that serves in many different pumping applications. Scientifically engineered for trouble-free operation and low maintenance costs. Write for Catalog D2-1042 which completely describes the new SCV pump.

Economy Pumps Inc.

1013 WELLER AVE., HAMILTON, OHIO

—and that customer-satisfaction is a continuing business asset for you

It is traditional that users are invariably pleased with Chicago Faucet operating economy and efficiency. Good service is always expected of Chicago Faucets as a matter of course.

But now, with war conditions limiting the availability of plumbing brass goods, these Chicago Faucet users are dramatically aware that their Chicago Faucets are reliable insurance against faucet trouble or the need of replacement.

When and as peacetime building is resumed and many of these Chicago Faucet users are in need of additional faucets, you, as the original sponsor and installer of their Chicago Faucets, will be the logical reaper of the good will resulting from Chicago Faucet performance during this time when such performance is vital.

★ ★ ★ ★ ★ ★ ★ ★

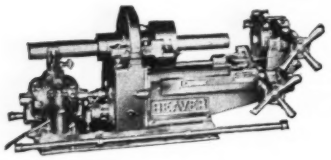
Because of wartime conditions, curtailment of the manufacture of Chicago Faucets is essential in order that "critical" materials may not be diverted from the war effort. With victory, full scale production of Chicago Faucets will be resumed.

THE CHICAGO FAUCET CO.,
2712 N. Crawford Ave., Chicago

CHICAGO FAUCETS

Last as Long as the Building

The A-B-C of Pipe and Bolt Machines

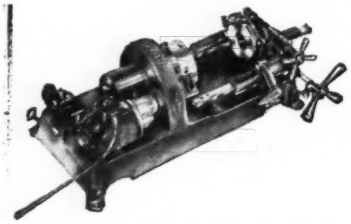


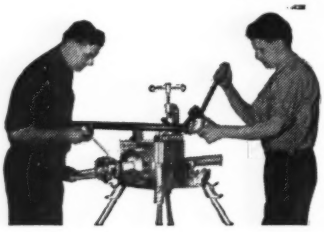
Beaver Model-A

A high-speed heavy-duty deluxe Pipe and Bolt Machine. Range ⅛ to 2-inch —up to 12-inch with geared tools and drive shaft. Bolts, ¼ to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

Beaver Model-B

A compact utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range ⅛ to 2-inch — up to 8-inch with drive shaft and geared tools. Bolts up to 1½-inch. Wt. 280 lbs. Ask for Bulletin-B.





Beaver Model-C

A sturdy little Power Unit

Converts Hand Pipe Tools into Power Tools from ⅛ to 8-inches. Threads 8-inch in 6 minutes. Threads bolts up to 1½-inch. Equipped with automatic chuck wrench ejector — a safety feature. Two men can use it at the same time without interference. Easily portable — weighs about 150 lbs. Write for Bulletin-C.

BEAVER PIPE TOOLS

A Complete Line — Hand and Power!

1242 DOME AVE. WARREN, OHIO

Condenser

This new water cooled condenser is built in eleven different sizes for varying capacities.

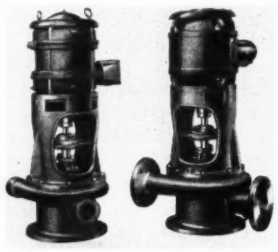
Listed Features: Constructed in a seamless steel shell and steel tubes, with removable cast-iron header which can be arranged for either series or parallel water flow, this type of condenser is said to give a range of capacities from 5 to 100 tons each, net refrigeration effect.

Manufacturer: Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.

Pumps

This new pump is said to embody all the practical features pump users look for, plus the latest in mechanical design.

Listed Features: Having both outboard and inboard bearings, which assure correct alignment, smoother and noiseless operation and consequently, longer life, the maintenance cost on these pumps is stated to be a negligible item. It is further stated that this medium-priced, compact pump is adaptable to a great number of applications. Just a few of the more common services in



which they have proved their adaptability are: (a) cold water circulation, (b) hot water circulation, (c) air conditioning systems, (d) sprinkler systems, (e) brine circulation, and many others. The smaller size pump—with discharges from 1 in. to 2 in. inclusive — have standard threaded pipe tap connections. The larger size pump —with discharges 2½ in. and larger—have standard 125 lb. flanged connections.

Manufactured by: Economy Pumps, Inc., Hamilton, Ohio.

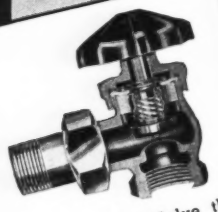
Quality still carries the top preference rating!

YOU may be having difficulty obtaining equipment. But don't let that obscure the fact that you want the best for the jobs that *do* carry the preference ratings.

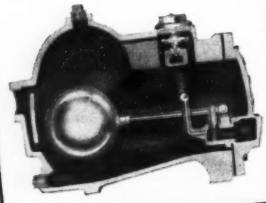
If the job is vital enough to merit a preference rating it is vital enough to rate the finest equipment that money can buy. And to hundreds of contractors that means Marsh.

In your locality there are plenty of essential jobs for which Marsh Heating Specialties are available. Some of the many advanced Marsh products are briefly described here.

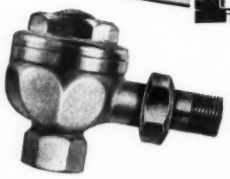
Jas. P. Marsh Corp., 2051 Southport Ave., Chicago, Ill.



● A packless Valve that IS packless. The exclusive Marsh metal-to-metal seal makes it permanently leak proof Available in all patterns and finishes.



● The Marsh No 14 Heavy Duty Float and Thermostatic Trap for draining coils, headers, etc. The Marsh trap line includes a complete line of float and thermostatic traps as well as inverted bucket traps and other types.



● A radiator trap with a highly sensitive thermostatic element that assures efficient operation. Made in both diaphragm and bellows type— all patterns.

FULL STEAM AHEAD

MARSH

News of Sales Aids

Plumbing Fixtures

A small, illustrated booklet for home owners. **Purpose:** Entitled "It's Easy to Keep This Lustrous Finish," this booklet offers many helpful suggestions on the wartime care of plumbing fixtures. **Features:** This booklet tells how enameled iron plumbing fixtures can best be cleaned, thus preventing the drying of stains on the fixture. It particularly calls attention to the fact that it is easier to prevent stains than to remove them. Further suggestions, contained in this booklet, are—keeping faucets in repair so as to prevent constant dripping of water having heavy iron content resulting in yellow spots . . . states that the plumber is better equipped to clean drains without damage to the fixture. **Issued by:** Sanitary Cast Iron Enameled Ware Association, 1108 Clark Bldg., Pittsburgh, Pa.

Specialties

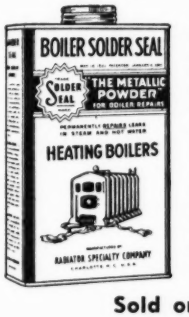
Type of Literature. Punched for an 8½ in. by 10½ in. two ring binder, this four-page leaflet is printed in two colors. **Purpose:** To list their line of fixtures (in which they use substitutes for critical materials) which are now available for military installations, ordnance plants, chemical and industrial plants, and defense housing units. **Listed Features:** Descriptions, accompanied by illustrations, are given on their new line of plumbing specialties—that is, items such as flush valves, basin faucets, shower heads, nozzles, a built-in connected drain and over-flow, sink fixtures, etc. **Issued by:** Speakman Co., Wilmington, Del.

Motors

Type of Literature: A 40-page illustrated bulletin No. GED-1017. **Purpose:** Although primarily intended

NO PRIORITIES ON BOILER SOLDER SEAL

The Original Metal Base Powder That Stops Boiler Leaks *Permanently*



Use BOILER SOLDER SEAL to keep present heating systems at high operating peak. It permanently repairs leaks in steam and hot water boilers, pipes and radiators. It makes the repair without closing down the system, does not discolor the water or leave any odor.

TRIPLE SEAL TANK BALLS

Rubber restrictions have reduced our output but we are doing our best to supply the demand. We suggest that you order in advance of your needs but only for normal requirements.

Sold only through the trade.

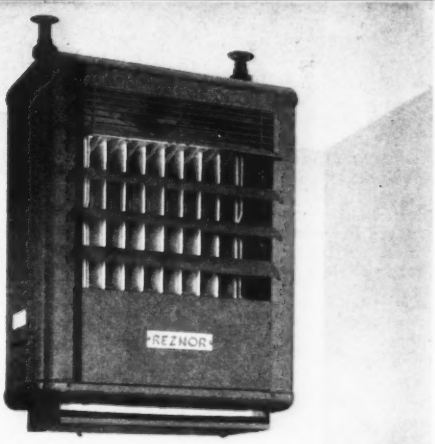
RADIATOR SPECIALTY COMPANY

CHARLOTTE NORTH CAROLINA

BRANCHES AND FACTORIES
LOS ANGELES, CALIF. — A SOLDER SEAL PRODUCT — TORONTO, CANADA
MFGS OF

Boiler Solder Seal • W J Boiler & Heating System Cleanser • Adjusto, the direct water heater and booster • Triple Seal Tank Balls • Golden State Washers • Drain Pep • TiteSeal, the indestructible gasket and joint-sealing compound.

FACTORIES FIND EXTRA VALUE IN SUSPENDED GAS HEATERS



AND now in the industrial field, Reznor Unit Heaters have proved themselves outstanding. Yes, their ability to deliver lots of warm air over wide areas is one of the reasons. But, delivering heat from a suspended position, above the working zone, also helps to make Reznor Heaters valuable to production management.

Reznor Unit Heaters may be easily and quickly installed—with lower installation costs. This type heating equipment also uses 89% less vital materials than cast radiation systems. You'll find it worth-while to investigate. Write for catalog U 42.

REZNOR MANUFACTURING CO.
300 JAMES STREET, MERCER, PENNA.

"THOSE REZNOR HEATERS MOVE A LOT OF WARM AIR"

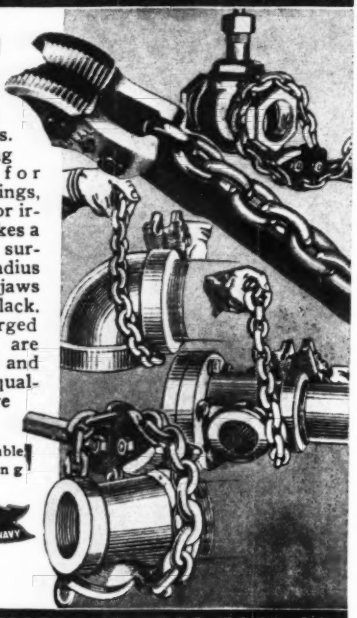
GAS HEATERS EXCLUSIVELY SINCE 1888

Look for the Arm-and-Hammer
ARMSTRONG BROS.

The Ideal Wrench

Made exclusively by ARMSTRONG BROS. Truly ideal for all around uses. Jaws have two biting surfaces. Straight for pipe, "V" for fittings, valves, and narrow or irregular surfaces—takes a 2 point hold on any surface. Extended radius (rocker shape) of jaws take up all chain slack. Jaws are drop-forged from special steel, are hardened, tempered and tested for wearing qualities. All parts are replaceable.

Chains instantly replaceable with link for screwing flanges.



STRONG
ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
323 N. FRANCISCO AVE. • CHICAGO, U. S. A.

for plants converted to war production, it should prove valuable in all plants in which motors are widely used. **Listed Features:** Discusses the following in a comprehensive and informative manner; how to get the most service out of old and new motors, "switching" motors from one job to another, and equipping old machines with new motors; also the selection and application of motors, various tpyes of motor enclosures, etc. A supplement explains how critical motor materials can be saved, including WPB recommendations, and information on the use of load-time-temperature charts is also given. **Issued by:** General Electric Co., Schenectady, N. Y.

Gauges

A 75-page, profusely illustrated catalog, with an attractive blue simulated leather cover. **Purpose:** Gives complete information on the gauges that have come to be considered standard in various industries, thus facilitating the choosing of the proper gauge for various requirements. **Features:** Detailed descriptions are given on each type of gauge—that is, on (1) its use; (2) the construction of the gauge; (3) connection; (4) dial sizes; and (5) standard dial graduations. Each description of a particular gauge is accompanied by a sizable illustration of the gauge. Specific instructions are also given for the ordering of gauges. **Issued by:** U. S. Gauge Co., 44 Beaver St., New York City.

Blow Torch

An attractive two-color wall chart entitled "Know Your Blow Torch." **Purpose:** Because of the appeals for service and maintenance information on tools being used in war work, this chart has been produced. **Features:** This chart has fifteen illustrations, showing the various steps taken on the proper lighting of a blow torch, with complete instructions given below each illustration. Also

WAKE UP
SLEEPY HEAD
WIND MILLS

DRIVING down the road, you can see what's strangling our farm water supply. Crippled windmills—twisted vanes and disabled wheels. Count them in your community. One South Dakota storm alone put 590 out of commission this year.

A new Monitor windmill head can be attached to any tower, can start the farm heart beating again. Milk is 87% water, eggs and meat are over half water—truly Victory flows from farm wells.

Why not play Paul Revere — wake up these sleepyheads — check up on every farm well in your vicinity? Give your nearest Baker branch a ring and ask how it can be done.

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401 BROADWAY, NEW YORK, N. Y. • PICKWICK BLDG. KANSAS CITY, MO.

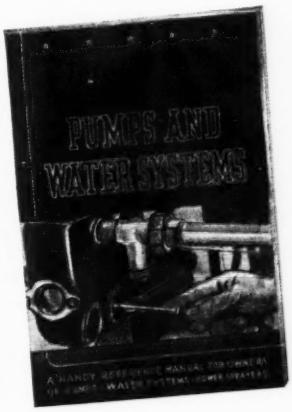
shown is a large illustration of a blow torch (a cross-section) with each part of the blow torch labeled, so it can easily be identified. **Issued by:** The Turner Brass Works. Sycamore, Ill.

Substitute Service

Type of Literature: Large, leather-bound loose-leaf binder, classified for easy reference. **Purpose:** This Service (entitled "The New Substitute and Alternates Service") is designed to swiftly report and organize information on all the substitute materials being developed or discovered to replace materials which are becoming short or unavailable. **Listed Features:** Subject and cumulative, alphabetical indexes make the location of any particular subject almost instantaneous. Speedy loose-leaf reports of current new developments keep the service up-to-date. A free consulting service is available to subscribers to the service. **Price:** $5.00 per month, payable semi-annually. The loose-leaf supplementary and replacement pages, keeping the service continuously up-to-date are sent as they are issued. **Issued by:** J. J. Berliner & Staff, 225 Fifth Ave., New York City.

Pumps

Type of Literature: A handy reference manual for pump and water system owners entitled "The Care and Maintenance of Pumps and Water Systems." **Purpose:** This new manual has been so designed that by promoting the distribution of this manual, pump and water system dealers will be assisting in the conservation of present pumping equipment, in addition to eliminating unprofitable service calls, for it tells pump and water system owners how to make minor adjustments and repairs. **Listed Features:** Just a few of the many chapters covered in this informative manual are (1) Inspection; (2) Breakage by Freezing; (3) How to Drain Shallow Well Pumps; (4) Underground Pipe Lines; (5) The Suction Line; (6) Lubrication; (7) Servicing of Stuffing Boxes on Plunger Type Pumps; (8) Power Pumps and Water Systems, Deep Well Ejector Type; (9) Hand Operated Pumps and (10) Hand and Windmill Operated Pumps, Deep Well. Other chapters cover important topics such as priming, sanitation, well pits, pressure tanks, how to order repairs, air volume control, motors, plus complete information on various types of pumps and water systems. **Issued by:** The F. E. Myers & Bro. Co., Ashland, Ohio.



Wrought Iron

Type of Literature: A "refresher course" consisting of four large wall-type instruction charts and four 8½ by 11 in. booklets (with numerous illustrations.) **Purposes:** This unique refresher course is said to have been designed to increase efficiency in the handling of wrought iron and thus save metal for war. **Listed Features:** The easy-to-read charts cover the subjects of pipe threading, pipe bending, plate bending, and welding.

The four instructive booklets augment the charts and cover the same subjects. The course has been designed for use by pipe fitters, plumbing and heating contractors, welders, and all others who work with wrought iron pipe or plates.

It is also available to students in apprentice or "upgrading" training courses. **Issued by:** A. M. Byers Co., Clark Bldg., Pittsburgh, Pennsylvania.

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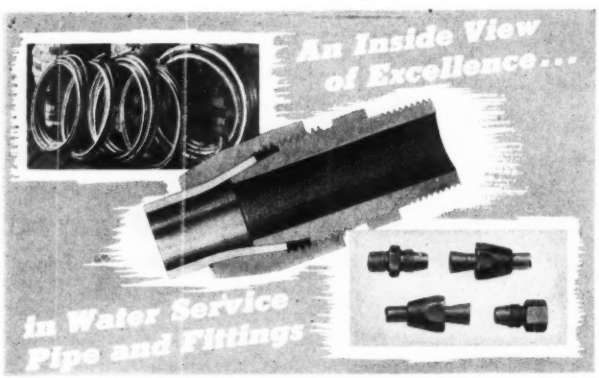

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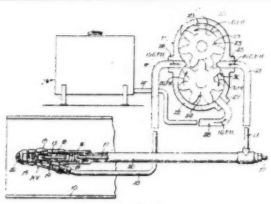
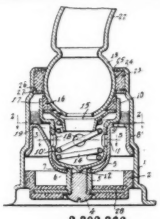
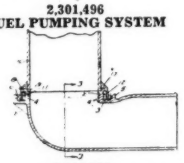
News of Patents

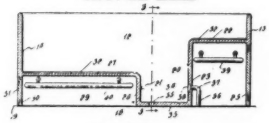
2,301,496. Fuel Pumping System. Lloyd I. Aldrich, Wyoming, Ill.

2,302,366. Shower Head. Ernest H. Bucknell and Ralph E. Bletcher, Los Angeles, Calif., assignors, by mesne assignments, to Modern Faucet Co., Los Angeles.


2,301,496
FUEL PUMPING SYSTEM


2,302,366
SHOWER HEAD


2,301,896
CONNECTION FOR PLUMBING FIXTURES


2,301,761
BATHTUB

2,301,896. Connection for Plumbing Fixtures. Henry J. Luff, Cleveland, Ohio, assignor to J. A. Zurn Manufacturing Co., Erie, Pa.

2,301,761. Bathtub. Albert E. Thompson, Long Beach, Calif., assignor of seven per cent to Zula Mae Crain Dunham.

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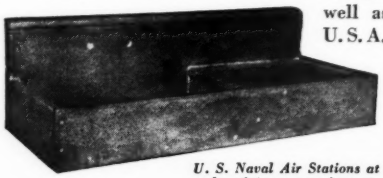

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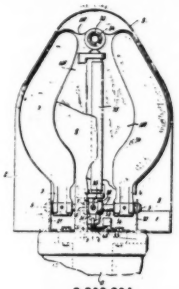
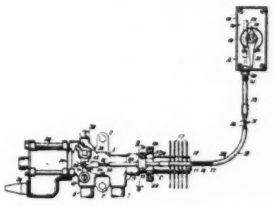
2,300,904. Toilet Seat. Kurt Beyrodt, Flushing, N. Y., assignor to Electric Steam Sterilizing Co., Inc., New York, N. Y.

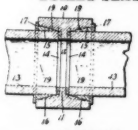
2,302,158. Manually Operable Remote Control for Radiator Inlet Valves. John Van Vulpen, Chicago, Ill., assignor to Vapor Car Heating Co., Inc., Chicago.



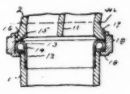
2,300,904
TOILET SEAT



2,302,158
MANUALLY OPERABLE REMOTE CONTROL FOR RADIATOR INLET VALVES



2,302,244
PIPE COUPLING AND SEALING DEVICE



2,302,617
PLUMBING FITTING

2,302,244. Pipe Coupling and Sealing Device. John F. Morrell, Glendale, Calif.

2,302,617. Plumbing Fitting. Mitchell S. Little, Hartford, Conn., assignor to the M. S. Little Manufacturing Co., Hartford, Conn.

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WARREN, OHIO

Insulation Savings . . .

(Continued from Page 50)

calculated; from this was subtracted 1/8th of the area to represent the average amount of glass and door area (in the case of the house with only front and rear wall exposed the figure for doors and glass was increased to ¼ on the assumption, as stated above, that the ratio would be slightly higher in this type of construction).

Then the wall area was multiplied by an average factor for frame construction with 70 degrees difference between the inside and outside temperatures, the factor used being 20 Btu per sq ft per hr. The same was done with the glass using a factor of 80 Btu. per sq ft per hr. These two amounts were added together and the whole increased by 10 per cent for an average exposure.

Next the ceiling area was computed and assumed to be ordinary lath and plaster with an unheated attic above in which the temperature would approximate 35 degrees when it was zero outside. A factor of 20 was assumed for this condition. Then the volume, or cubic contents was computed based on the length of the house times the widths of the house times the height of the room times one and one-half air changes which were assumed for the free standing houses as an average leakage while one air change was assumed for the terrace houses

Tabulation of Heat Losses
Type (A) House
Gross wall, 792

Glass	132 × 80 Btu	10,560 Btu
Net Wall	660 × 20 Btu	13,200 Btu
Total Wall and Glass		23,760 Btu
Average Exposure 10 per cent		2,376 Btu
Wall and Glass inc. Exp.		26,136 Btu
Ceiling 20'x24' or 480 × 20		9,600 Btu
Air change 20' × 24' × 9' × 1½ A.C. or 6,480 cu ft × 1¼ Btu		8,100 Btu
Grand Total		43,836 Btu

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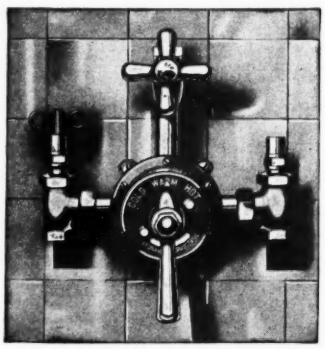

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owing to two side walls having no exposure.

Thus for the one-story free standing house the outside wall—if the house is 20 ft by 24 ft—will have a total length of 24 ft plus 20 ft plus 24 ft. plus 20 ft or 88 lin ft if the rooms are 9 ft high the gross wall area will be

88 ft x 9 ft or 792 sq ft

and with ⅙th of this glass the glass area will be 132 sq ft leaving a net wall area of

660 sq ft

From these figures the calculations for houses B, C and D can easily be made.

The various things which may be done to reduce the heat loss in these houses may be enumerated as follows: 1. Insulate the outside walls; 2. Add storm windows; 3. Weather strip the windows; 4. Insulate the ceilings; 5. Add storm doors. These must be evaluated on the basis of heat saved and for this purpose we have assumed that about 50 per cent of the heat loss through uninsulated walls will be prevented. It has also been assumed that storm windows will stop about fifty per cent of the heat normally lost through the windows, and that weatherstripping will cut the leakage or air change about in half, and that insulating the ceiling will save about ⅔ of the heat lost to the attic. The storm door item is hard to evaluate and an arbitrary amount of 1,000 Btu per hour has been assumed for houses A and B and 700 Btu per hour for houses C and D. This results in the following schedule of Btu saved:

The percentages given are percents of the **total** heat saved by each item. It is interesting to note that the percentage of total heat saved by insulating the outside walls is different in each case due to the different amounts of outside wall involved. Insulating the ceiling gives the same actual heat saving in every case but the percentage of the total heat saved is different due to the variation in the total amount of heat re-

Item Where Saving is Made	Saving A Btu—%	B Btu—%	C Btu—%	D Btu—%
1. Insulating Walls	7,500–17	15,500–20	2,900–10	6,080–12
2. Storm Windows	6,616–15	12,000–15	4,400–15	8,840–12
3. Weatherstripping	4,000–10	8,332–10	2,700– 9	5,400–11
4. Insulat'g Clg.	6,616–15	6,616– 8	6,616–22	6,616–13
5. Storm Doors	1,000– 2	1,000– 1	700– 2	700– 1

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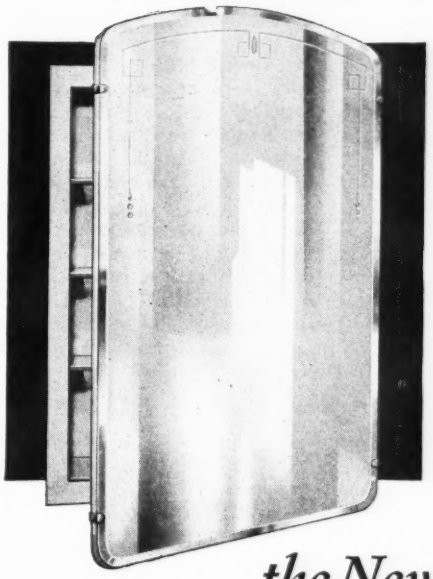

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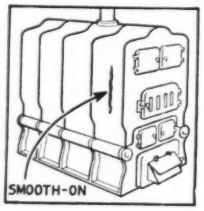

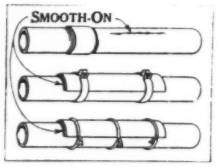

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quired in the four different houses. The next step is to set up the approximate costs of each item and then to compare these with the percentage of savings in dollars.

It is estimated that the approximate costs of performing the various items of work on a house of the size and types listed may be in the neighborhood of the following amounts:

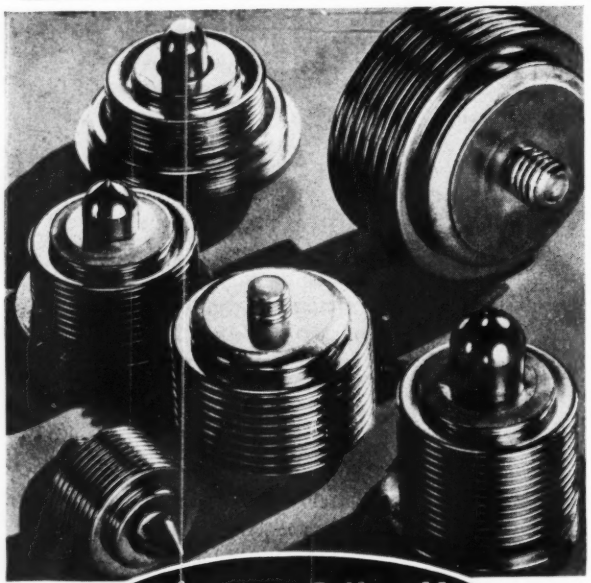
Item	Cost installed in Dollars A	B	C	D
1. Insulating Walls	175	300	90	50
2. Storm Windows	30	50	20	40
3. Weatherstripping	15	25	10	20
4. Insulating Ceiling	100	100	100	100
5. Storm Doors	15	15	15	15

Dividing the installation cost for each item by the respective percentage of heat saving that the item results in, gives the cost for **each per cent of saving** effected by the different means. This results in

Item	Cost for Each 1% of Saving in Dollars A	B	C	D
1. Insulating Walls	10.30	15.00	9.00	12.50
2. Storm Windows	2.00	1.67	1.33	3.70
3. Weatherstripping	1.50	2.50	1.11	1.80
4. Insulating Ceiling	6.67	5.88	4.54	7.70
5. Storm Doors	7.50	15.00	7.50	15.00

It would appear from this that the greatest amount of saving per dollar of investment will occur when weatherstripping is installed which costs not over $2.50 for each per cent of saving made, the next is storm windows which cost not over $3.70 for each per cent saved, the next is ceiling insulation which does not run over $7.70 for each per cent, the next being storm doors which do not exceed $15.00 while the last is wall insulation which runs as high as $15.00 for each per cent gained.

This is purely a banker's set up indicating what brings the greatest return on the investment but is not entirely to the point where in the present case the greatest amount of reduction in fuel oil consumption is the real issue. Going back to the table of



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"HE MEANS ME!"

Yes, *you*, Mr. Engineer—and *you*, Mr. Operator! The conservation of fuel—as much a part of total war effort, as three shifts and capacity output—is a challenge to you this winter! *This* winter the worker must work in temperature suited to his work and that in spite of fuel conservation!

To help you be sure you are getting the most out of your systems, Dunham offers during the emergency a consultant service on repair and maintenance problems. To use this service involves no obligation. Essential repair parts are available under government approval. Just write C. A. Dunham Co., 450 East Ohio St., Chicago, Illinois.

"Dunham Heating Service" is available through the telephone in more than 60 cities, or by correspondence to C. A. Dunham Co., 450 E. Ohio St., Chicago.

DUNHAM HEATING SERVICE

percentages saved for a moment it will be seen that while wall insulation is costly it will save up to a maximum of 20 per cent in fuel on the B type house with the A type house nearly as much. On the C and D types it reduces to almost half as much owing to the small amount of outside wall used in these types of construction. Storm windows again save almost 15 per cent in either of the two types no matter whether of one or two story heights. Storm doors, on the other hand, while cheap for the percentage saved will save so little on the total that their use is questionable except on the basis of comfort rather than economy. Ceiling insulation shows better results in a one-story construction than it does in two-story heights owing to the fact that it saves the same amount of Btu in the same size of house regardless of the height. With two-story high houses, the total heat loss is greater so that with a fixed saving for the ceiling insulation the saving will be smaller in per cent for the two-story types.

All of this is interesting but how does it have a practical application? In answer to this it might be said that it will serve as a basis for computing the reduction in fuel oil consumption which will be made by any one or more of the five fuel saving features which have been previously considered. But before doing this it must be remembered that the percentages are computed on a base fuel usage in a house in which none of the conservation methods have been put into use.

Fireplaces . . .

(Continued from Page 53)

to what is at hand, coal, coke, slack, fire-wood, waste or what have you.

The masonry fireplace represents so varied a picture that it is difficult to speak of it in general terms. There has been a steady improvement in fireplace practice in recent decades and the best masonry fireplaces are valuable heating heating auxiliaries. When emergency throws the whole load of heating on a fireplace, even a moderately good fireplace is better than none. It heats generously even though its radius of benefits is not wide. Direct radiation from flame does not warm the air, say experts, but it does warm the householder and his family. By warming them, the furniture, the floor and other objects within range it establishes areas of indirect radiation.

No More Damage from Condensation or Sweating Pipes, Tanks, Walls, Ceilings and Air Ducts

A SURE CURE

NoDrip ● This sensational plastic cork coating prevents condensation drip from metal, concrete, brick, wood, plaster or composition. Permanently protects metal against rust and corrosion, thus prolonging life of pipes, tanks, etc. Forms a moisture-proof, insulation type coating impervious to acid and alkali.

Stucco-like finish requires no maintenance and can be painted any color. A gallon covers about 30 feet of 1" O.D. pipe. Comes in 1, 5 and 55 gallon drums.

Immediate Shipment. Order from your Supply House. Write for **NoDrip Handbook.**

J. W. MORTELL CO.
Technical Coatings Since 1895
504 Burch St. Kankakee, Illinois

YES, FOR THE DURATION HE COMES BETWEEN YOU AND YOUR CUSTOMER

At this time, your sales psychology is strongly centered on maintaining the confidence and future saleability of your established customers.

Because KOVEN is widely recognized for high quality in durable, economical equipment, we're certain that this sales objective is easily attainable.

"Customer satisfaction follows KOVEN Installation!" We've heard *that* from *you*—Men in the Plumbing Industry.

Among the many KOVEN products are:

RANGE BOILERS Copper
SCULLERY SINKS
KOVEN PARACOIL TANKS
BARBER BOILERS
WATERFILM STEEL BOILERS
For Automatic Firing
STORAGE TANKS
Steel or Copper
FUEL OIL TANKS
EXPANSION TANKS
PNEUMATIC TANKS
SEPTIC TANKS

KOVEN SERVES FOR VICTORY

We will continue to serve the Plumbing Industry as well as Governmental restrictions permit. We, of necessity, cannot always furnish a complete line due to close co-operation with the Government's War Efforts and the scarcity of materials.

PLANTS
Jersey City, N. J. Dover, N. J.

L. O. KOVEN & BRO. INC.
JERSEY CITY, N. J.

HOLIDAY

Greetings

TO OUR FRIENDS

in the

PLUMBING INDUSTRY

The makers of Abingdon Vitreous China Plumbing Fixtures wish you a Merry Christmas and a Prosperous New Year.

☆ ABINGDON SANITARY MANUFACTURING CO.

Abingdon *Illinois*

A good fireplace, from a heating standpoint, has a comparatively shallow recess. Its sides are splayed and its back sloped forward to give it the quality of a reflector.

Bad fireplaces come in two general classes. 1—Those which burn faultily through restricted exit for the products of combustion. 2—Those that discharge so freely that only the outer air is heated.

In the latter class come those deep set, heavy fronted fireplaces with flues rising from rear areas. They may roar and consume vast quantities of fuel but a bystander can almost lean against them and still shiver. Stubborn architectural blundering is mainly responsible for these futile monstrosities. Their sponsors insist that a fireplace should give minimum heat, because heating is adequately provided in the central system and they contend that a hot fireplace upsets carefully calculated thermal factors, shutting off thermostats, etc.

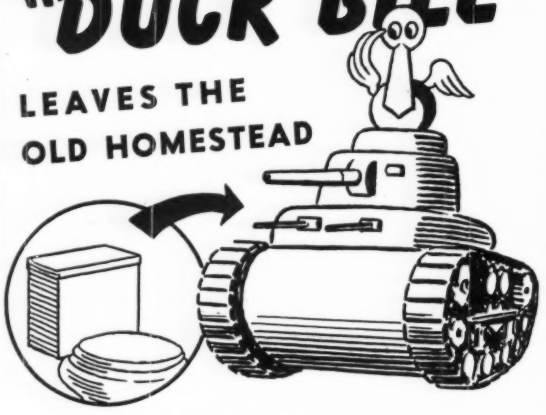
This point of view is most frequently encountered on the eastern seaboard. Its devotees are a diminishing number and this emergency should put a quietus on any creed of heatless fuel consumption. Yet one cannot help wondering whether such testimony did not influence the ruling of WPB against use of iron for fireplace grates. Go where you will among contractors or dealers and you find the one thing their customers want above everything else is fireplace grates. Our concern has been forced to reject orders for many thousands in recent months.

Direct discharge of smoke into an oversize flue at the back of a fireplace is sometimes a tacit admission that the designer does not know how to create a proper throat and smoke chamber and seeks by the most direct opening to assure proper discharge. As in the case of a plumbing outlet, the fireplace needs protection against counter currents of air. The smoke chamber with its shelf arrests downdraft. The damper valve plate at the front of the shelf assists in directing them upward in the main ascending column.

Corrective work on fireplaces usually entails considerable tearing out. But time and muss are saved by a careful preliminary diagnosis. It may be that rubble has fallen down the flue and lodged at a flue angle. It may be that a faulty bend constricts discharge; that the flue is too small for the capacity of the fireplace (the most prevalent fault). At the same time, do not forget the plight of a fashionable clubhouse whose fireplace remained cold for 20

"DUCK BILL"

LEAVES THE OLD HOMESTEAD



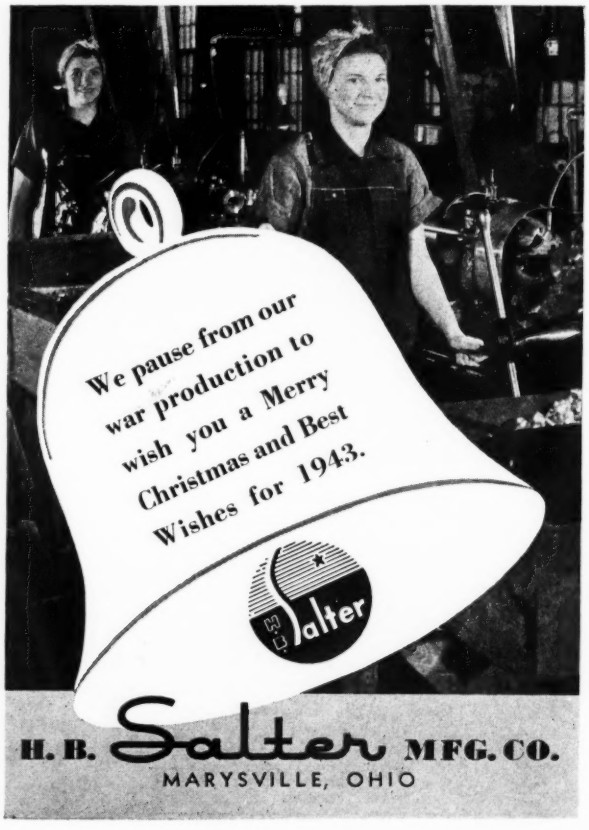
Out of one Tank on to another

FOR THE DURATION

ROCKFORD BRASS WORKS

ROCKFORD, ILLINOIS

The Complete Line of "Plumbing Brass Goods Since 1890"



H. B. Salter MFG. CO.

MARYSVILLE, OHIO

years because it "smoked terribly." Investigation showed that the damper had never been opened.

Sectional flue area should not be less than 1/12 the area of the fireplace opening. The fireplace should have a separate flue. Smoke should discharge through a damper the full width of the opening, located just back of the front wall, so that flame is brought forward. It should discharge into a smoke chamber with sides smoothly sloped and no more abruptly than 45 degrees.

The flue should take off from the center even though it may slope in finding its place in a stack, and such slope should be not more than 30 degrees from vertical. Any roughness in the masonry or any ingress of air before reaching the top is a hazard.

In appraising the value of the fireplace for heating, the psychological factor should not be overlooked. Mankind rejoices in the cheer of an open flame. For untold past generations it has been the symbol of comfort. Families with the means of lighting a bright cheery fire will not suffer greatly in wartime morale.

George Donley,
President,
The Donley Brothers Company, Cleveland.

Roof Cooling

(Continued from Page 56)

Nozzle Pressure lbs.	Height of Spray	Diam. of coverage at nozzle level
4	1'6"	11'
5	1'9"	12'6"
6	2'	14'
7	2'3"	15'

The above figures are average. Spread does not include spatter. These nozzles were connected to the feed pipes through adjustable ball joints of brass, thus making it possible to have the connecting tees slanted down to give complete drainage. At the same time it makes it possible for an operator to change the plane of spray where desired without breaking into the piping system (all that is required is a screw driver). Rather than use the usual form of pipe supports, which would have had to be screwed or bolted to the roof, thus breaking through the roof covering, a special form of Redwood support was designed resting on top of the roofing with wedges which permit of easy adjustment of pipe lines for proper drainage.

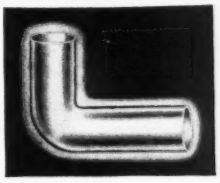
"EVERLAST" LIGHT WEIGHT PLASTIC FLOAT

Does away with strain and wear imposed by heavy floats on hard-to-get rods and ball-cocks. "Everlast" weighs *only* a fraction of the weight of some others—yet considerably stronger.

AMERICAN "Everlast" PLASTIC TANK FLOATS

Tough, last indefinitely! Corrosion proof, buoyant, resistant to all water content. Used by leading manufacturers.

Sold in bulk or 1 doz., in beautiful display carton. 2 sizes: 4 x 5 in. and 3½ x 4½ in.



"Everlast" FLUSH ELBOWS

One-piece, porcelain white. A distinctive improvement to enhance the appearance of bathroom fixtures.

All popular sizes. With or without plastic slip-nuts and rubber washers.

RETAILERS: Order from wholesaler. Send for folder.
JOBBERS: Send for samples and prices.

Write for details on American's line of Plastic Plumbing and Heating Specialties. Many new items are being developed.

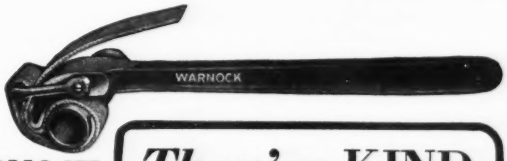
Originators and pioneers of Plastic Plumbing Specialties.

AMERICAN MOLDED PRODUCTS SALES CO.
1752 N. HONORE ST. CHICAGO, ILL.

DOES NOT STAIN HANDS or FIXTURES

Take a tip from other master plumbers and use Rutland Pipe Joint Cement on every job. It seals joints tightly—lasts indefinitely—yet always leaves pipes easy to disjoin. Legal for use in all cities because no toxic ingredients. Remains soft in can.

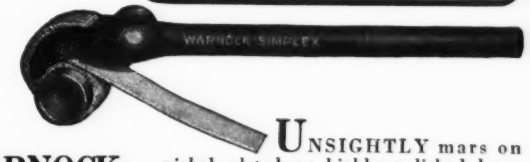
Mail post card for free sample. Rutland Fire Clay Company, Department D-12, Rutland, Vt. Also makers of Rutland Retort Cement, Furnace Cement, Asphalt Paint, Concrete Patcher.



WARNOCK WRENCH

Improved type. Drop forged shackle. Strap has three wearing positions. Simple to adjust. A tool for the man who has constant use for a strap wrench.

They're KIND to POLISHED PIPE AND TUBING



WARNOCK SIMPLEX WRENCH

Simplest of strap wrenches. Consists of a handle, strap and wedge. Both ends of strap can be used for double wear. This tool is for the man who has only occasional use for a strap wrench.

UNSIGHTLY mars on nickel plated or highly polished brass pipe and tubing can ruin the appearance of the finished job! Handle this type of work quickly and easily and, at the same time, protect it throughout installation with a WARNOCK Strap Wrench. Soft strap contact will not scratch . . . curved nose eliminates crushing. Unbreakable handle, finished in enamel, always looks new.

Order one or several WARNOCK Strap Wrenches from your wholesaler today.

Warnock Mfg. Co., Worcester, Mass.

THE HURRICANE BLEW IT OFF *but*

2 FLOORS NOW DO THE WORK OF THREE WITH

Sarco

The hurricane blew the top floor of the New England Overall Company to the ground. A rearrangement of machines — plus a speed-up produced by all-Sarco steam traps and controls — enabled this company to do more business with two floors than they formerly did with three.

The owner says: "If you have three wash wheels, you should be able to load them up all at the same time. If your plant is full of presses, pants stretchers, tumblers, etc., no one machine should be slowed up by any or all of the others. Our contractors advised a separate Sarco steam trap for each machine — we know now it would have been folly to do it any other way. I know what steam costs and what it costs to have operators wait. I'll spend a dollar to save ten anytime." Catalog No. 350.

145

SARCO SAVES STEAM

SARCO COMPANY, INC.
475 Fifth Avenue, New York, N. Y.
Sarco Canada Ltd., Federal Bldg., Toronto, Ont.

The result of this installation during the summer of 1941 was so satisfactory that when Plant No. 2 was started in the Fall, another installation was made. Both plants gave satisfactory results during the past summer.

In this case the idea of putting all distribution piping above the roof was accepted (on the first job the main distribution pipes were kept under the roof with the result that they had to be covered to avoid trouble from condensation with resultant drip on machinery or personnel during the humid weather). Condensation and resultant dripping which take place above the roof is of no importance.

Another advantage of having all main supply lines above the roof is that the number of roof penetrations is reduced, and furthermore with the operating valves above the roof, a man when making adjustments can see exactly what he is doing. Care should be taken in laying out the roof to see that water drains off promptly, rather than laying in pools, where it may actually heat up from the sun, or possibly breed mosquitos.

The result of these first two installations has been so satisfactory that the third large plant addition now underway is to have a roof canopy similar to plant No. 2.

Before closing I wish to emphasize the fact the cooling effect within the building is not due to the water temperature, but is due to the solar heat being absorbed by the evaporation of the spray before such solar heat enters the roof. In a non aircooled one-story building the afternoon temperature will be 10 to 15 deg cooler with a proper spray canopy than without.

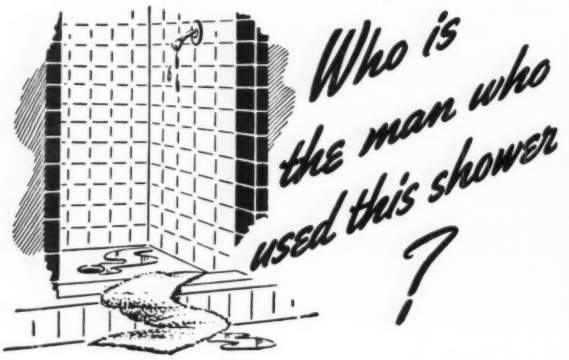
Out on Long Island there is plenty of underground water, so the question of saving water did not enter into the problem, but if water is costly or scarce or there is any question of sewer capacity, the solution is to catch the water at the eaves of the building and re-circulate it.

Hester Repair Work . . .

(Continued from Page 56)

He gives day and night service and his trucks even cover surrounding towns and villages.

"Our best business-getter is a large display advertisement in the telephone directory," said Mr. Hester. "It covers about a third of a page and



Who is the man who used this shower ?

Want some clues? *He slept well last night and now he's enjoying his breakfast. He intends to call on his Baltimore customers today, spend the night here and hop a fast train (45 minutes) to Washington tomorrow morning to tackle some business there.*

Who is he? He could be you on your next trip to this territory—using this famous hotel in this famous city as your convenient headquarters in this busy area.

We can make better arrangements for you if we know you're coming. Reserve your room in advance.

The LORD BALTIMORE HOTEL

BALTIMORE • MARYLAND

700 rooms—each with radio, tub and shower

Conserve Fuel!

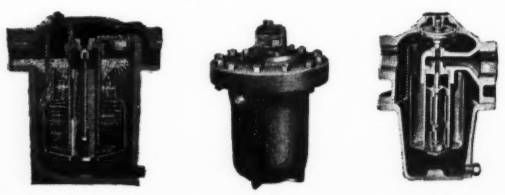
Control Steam!

ILLINOIS

STEAM SPECIALTIES

Manufacturers of the most complete line of automatic equipment to control steam from boiler outlet to the return inlet. Also a complete line of traps for all services from 5 pounds to 600 pounds pressure and for superheated steam service. Also compressed air service.

Our deliveries will interest you! Consult us on your requirements. Write for bulletins.



ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO

lists our various services. This brings us calls from all over the city, especially from new customers. Much of our business is of a repeat nature, and this is especially true with real estate agents for whom we do considerable work. Our men on the job also originate some business, while some customers see the signs on our trucks and call us."

Mr. Hester estimated that about 90 per cent of his business came in over the telephone. His secretary takes down the calls and when he is away allocates them to the men, routing them so as to save time and transportation equipment. Men call in occasionally on their rounds, so that any other jobs in their neighborhood may be given them. The minimum charge for a job is $2.75, and that is where not more than one hour's work is required with no material. The average job will of course run much more than this.

On account of the manpower shortage, Mr. Hester is using all older men, those not subject to the draft, and as a result he is not having much turnover in help. When he gets a little low in help he advertises and puts on a few more than he needs. He doesn't believe in trying to get along without adequate help.

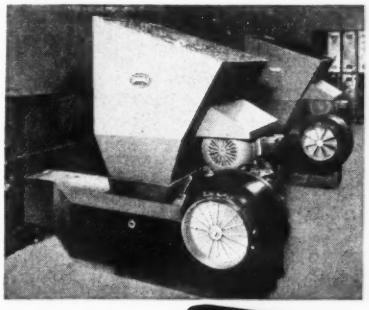
As a specialist in unstopping sewers, Mr. Hester has had some unusual experience. Once he was called in on such a job at a laundry supply house. He couldn't locate the service line to the building although he dug a trench up and down along the inside of the main sewer. He spent about two weeks of digging and hunting and finally had to start at the opening of the branch line in the building, tearing up the floor and excavating to the point where it connected with the sewer. He found to his surprise that the line connected to a "dead" sewer, that is one which had been shorted out by the city when a new one was installed. Most of his digging, which looked like a zig-zag of war trenches, was between the dead sewer and the new one, and explained why he could not make contact with the service line. The plumbing had served the building for quite a while because the old sewer served as a sort of septic tank.

As to what stops drain lines, grease is enemy No. 1, Mr. Hester said, especially where the kitchen sink is concerned. However, he has taken about everything out of service lines including soap, combs, brushes and items of wearing apparel. Once one of his men found a dead rat was causing an overflow in a drug store.

HIGH RATIO OF POUNDWEIGHT / H. P. DEVELOPED

for Long Life with Minimum Service Attention and Minimum Maintenance Cost!

Heavy, rugged construction of FREDERICK underfeed screw type stokers is designed specifically for the rigors of continuous, hard service in industrial uses. Time-out for repairs, maintenance manpower consequently is very infrequently needed.



Equipment includes: Large, heavy duty, three speed automotive type transmissions; oversized motors and fans; burning ends made up of segmental type, interlocking tuyeres. Materials are finest procurable. (COMPLETE DESCRIPTION UPON REQUEST.)

Hopper and Bin Feed Models ... 200 to 850 Lbs./Hr.

Available with either clinker type burners, or with side dumping grates.

The mechanical simplicity of their construction assures long, "bug-free" operation. Ask about them. No obligation whatsoever.

Frederick INDUSTRIAL STOKERS

THE FREDERICK IRON & STEEL CO.
8th & East Street, Frederick, Maryland
"Builders of Good Stokers for Over 24 Years"

FOR FASTER STEAM SUPPLY!

Welding Connections between flanged Units.

FOR a steam-and-watertight connection on both pipe and conduit, use Ric-wiL Insulated Pipe Units with *all-welded* connections, as pictured above. They give a perfect, permanent seal and a joint of maximum strength.

These are totally pre-fabricated, ready-to-install units, ideal for both speed and economy. Structural strength of Hel-Cor spiral conduit exceeds *any normal* service requirements. Units are furnished in 20-foot lengths, for single and multiple pipes, for any kind of steam pipe or insulation desired, for underground or overhead. Can be quickly installed, with minimum trenching, in ANY kind of weather. All expansion loops, conduit fittings, anchors, watertight glands for walls, and other parts can also be furnished ready to install. Write for Catalog "S", showing *all* types of Ric-wiL Conduit construction.

Engineers on War Projects ONLY: Ask on your letterhead for Engineering Manual 420-A.

RIC-WIL INSULATED PIPE UNITS
THE RIC-WIL CO., CLEVELAND, O.
Agents in Principal Cities

DEALERS: Field Controls Cut Fuel Consumption Up to 25% . . . — Help Uncle Sam . . . — Give You Something More Profitable to Sell

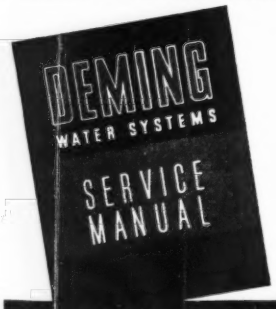
Write or Wire today for complete information on how the FIELD CONTROL line can UP your sales volume considerably.

--COMPLETE COVERAGE--

Illustrating Field Type M — one of a complete line covering every heating installation in your community. Easily sold; no servicing.

FIELD CONTROL DIVISION
MENDOTA, ILLINOIS

This is YOUR Manual!



● This 68-page Deming Service Manual is prepared to help YOU meet your customers' needs for service and repair parts on Deming Pumps and Water Systems under wartime conditions. If you haven't received a copy, write NOW for the new Deming SERVICE MANUAL. It's FREE to YOU.

THE DEMING COMPANY • SALEM, OHIO

CAN YOU SUBSTITUTE These STOCK ITEMS

For Hard-to-Get
ANCHORS
●
Shipped on Low Priority
●

HANGER RING AND BOLT

LAGSCREW FIG. 650

SNUGFIT PIPE HOOK

Ask Your Supplier and Write for Catalog

THE PAINE CO. 2955 CARROLL AVENUE CHICAGO, ILLINOIS

The CADWELL Line . . .

★ **FLOOR & CEILING PLATES**
Army-Navy-Maritime and War Shipping Board
★ **RELIEF VALVES**
★ **AIR VALVES**
Priorities Necessary

Recommended by Master Plumbers everywhere . . . for dependable performance.

★ *The* **BEATON & CADWELL** *Mfg. Co.*
Established 1894
NEW BRITAIN, CONN.

1857 1943

FIRE HYDRANTS
YARD HYDRANTS
WALL HYDRANTS
STREET WASHERS
HARDWARE SPECIALTIES
PLUMBING SPECIALTIES
SPECIFICATION DRAINS

"Depend upon Kupferle for top quality, top workmanship, ethical selling and prompt delivery under NORMAL conditions" . . . going into our 86th business year, our record proves that these pledges are deeds, not simply words.

JOHN C. KUPFERLE FOUNDRY CO. ST. LOUIS

KUPFERLE

Mostly regulation equipment is used by Mr. Hester in clearing sewers. Where a rod or cable will not move the obstruction and digging has to be resorted to, this same instrument can be used to good advantage to measure along the ground to the approximate point for the excavation, he pointed out.

Mr. Hester estimated he had removed about 10,000 bushels of roots from clogged up sewers. He said that the refill over a sewer line never gets as hard as the ground around it, and that roots naturally seek out moist, loose soil. Also roots have a tendency to go down and under the sewer line, pushing it up, and then reaching their tendons inside the sewer itself. He indicated the elm and hackberry as prime offenders among trees when it comes to uprooting sewer lines.

Another specialty is "blowing out" steam boilers. He will guarantee to improve the efficiency of a boiler or not charge for the work. In such cases he runs a test before and after the cleaning operation. Recently he tested a boiler and it took 1½ hours to get up one pound of steam. He blew it out and got up 5 pounds in 15 minutes, starting with a cold boiler. He charged $12 for his work and the owner was glad to pay it as it enabled him to save twice that much coal the first year.

Conversion Prices

(Continued from Page 61)

(b) **Uninstalled price.** The maximum price for the sale of any special combination grate listed above shall be a price not higher than the installed price for such grate as established above, less the cost to the seller of making the installation in the locality where the special combination grate is to be installed.

1346.160 **Less than maximum prices.** Lower prices than those set forth in this Regulation may be offered, charged, demanded, or paid.

1346.161 **Federal and State taxes.** There may be added to the maximum price established by this Revised Maximum Price Regulation No. 236 the amount of tax levied by any Federal excise tax statute or any State or municipal sales, gross receipts, gross proceeds, or compensating use tax statute or ordinance under which the tax is measured by gross proceeds or units of sale, if, but only if, (a) such statute or ordinance requires the vendor to state the tax separately from the purchase price paid by the purchaser, consumer, or user, on the bill, sales check, or evidence of sale, at the time of the transaction; or (b) such statute or ordinance requires such tax to be separately paid by the purchaser, consumer or user with token or other media of State or municipal tax payment; or (c) such a statute or ordinance permits the vendor to state such tax separately, and such tax is in fact stated separately, by the vendor. The amount of tax permitted to be added by this paragraph shall in no event exceed that paid by the purchaser, consumer, or user.

1346.162 **Adjustable pricing.** Any person may offer or agree to adjust prices to or at prices not higher than the maximum prices in effect at the time of delivery.

1346.163 **Evasion.** The price limitations set forth in this Revised Maximum Price Regulation No. 236 shall not be evaded, whether by direct or indirect methods, in connection with an offer, solicitation, agreement, sale, supply, or delivery of, or relating to conversion parts of installation services relating thereto, either alone or in conjunction with any other commodity, or by way of commission, service, transportation, or other charge, or discount, premium, or other privilege, or by tying-agreement or other trade understanding, or otherwise. No retailer or installer shall require an ultimate purchaser to buy conversion parts not actually required to complete in good mechanical working order the conversion of his oil fired heating boiler for the use of hand fired solid fuel. No seller shall require any purchaser for resale to purchase conversion parts which he does not want as a condition of receiving conversion parts which he does want. Nor shall any seller require purchases of conversion parts to be made in quantities weighing 10 pounds or less in order to secure a higher price.

1346.164 **Records and reports.** (a) Every person making sales of conversion parts, other than special combination grates, subject to this Revised Maximum Price Regulation No. 236 shall keep for inspection by the Office of Price Administration for so long as the Emergency Price Control Act of 1942, as amended, remains in effect complete and accurate records of each such sale, showing the date thereof, the name and address of the purchaser, an itemized list of conversion parts sold, their total net weight, and the total price received, with any charge made for transportation shown separately.

(b) Every person making sales of special combination grates for which maximum prices are established by this Regulation shall keep for inspection complete and accurate records of each such sale, showing the date thereof, the name and address of the purchaser, the trade name, type, and capacity of the grate, the price received, and a notation as to whether the grate was sold installed or uninstalled.

(c) Every person engaged in the sale or supply of conversion parts installation services for which maximum prices are established in section 1346.158 shall preserve for inspection by the Office of Price Administration for so long as the Emergency Price Control Act of 1942, as amended, remains in effect complete and accurate records of each such sale or supply of installation services showing:

(1) The name and address of the purchaser of such service or installation;

(2) The date thereof;

(3) The actual number of hours employed for completion of the conversion;

(4) The rate charged the purchaser per hour;

(5) The type and number of unit converted.

(d) Every person engaged in the sale and supply of conversion parts installation service shall file, on or before December 21, 1942, with the War Price and Rationing Board of the Office of Price Administration having jurisdiction over the area in which the seller is located the following:

(1) The hourly prices charged for conversion parts installation services during the month of March 1942;

(2) The hourly rate of wages paid to employees performing such service or a similar service in March 1942;

(3) If there has been any increase in the hourly wage rate between the period of March 1, 1942, and October 3, 1942, the amount thereof and the effective date of such increase;

(4) If the installer of conversion parts did not have such established hourly price for such service or a similar service during March 1942, the maximum hourly price of the nearest competitor who pays the same wage rate and employs the same class of mechanics.

(e) Every person engaged in the sale and supply of conversion parts installation service shall prepare on or before December 21, 1942, to the full extent of all available information and records and thereafter keep posted in a conspicuous manner at his place of business for examination by any person during ordinary business hours a statement showing the highest

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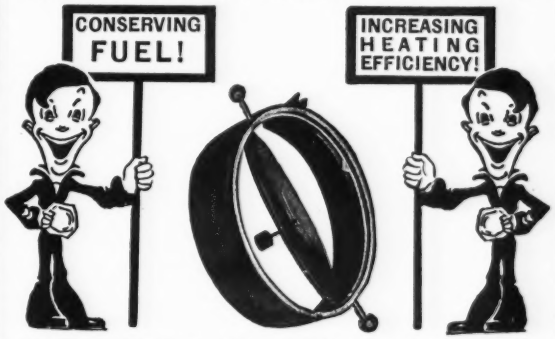

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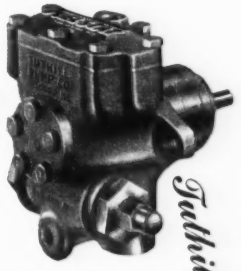

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prices which he may charge for installation services pursuant to the terms of section 1346.158 of this Regulation.

(f) Persons affected by this Revised Maximum Price Regulation No. 236 shall submit such other reports to the Office of Price Administration as it may from time to time require.

1346.165 **Details required in contract of sale and invoice.** (a) Every seller of conversion parts, other than special combination grates, shall with respect to every sale thereof deliver to the purchaser an invoice which shall contain the name and address of the purchaser and the seller; the date upon which the sale was made; an itemized list of the conversion parts sold; their total net weight; the price per net pound of such conversion parts; and the total price paid, with any charge made for transportation shown separately if required by sections 1346.155, 1346.156, and 1346.157.

(b) Every person making sales of special combination grates for which maximum prices are established by this Regulation shall with respect to every sale thereof deliver to the purchaser an invoice showing the name and address of the seller; the date upon which the sale was made; trade name, type, and capacity of the grate; the price received, and whether sold installed or uninstalled.

(c) Every person supplying conversion parts installation services for which maximum prices are established in section 1346.158 shall furnish with respect to each installation an invoice which shall contain the name and address of the purchaser and the seller; the date on which the installation was made; the total number of hours actually employed to complete the conversion; the rate per hour charged for such service; and the type and number of unit converted.

(d) Every person selling conversion parts, other than special combination grates, and supplying the services necessary for their installation shall furnish to the purchaser an invoice containing all of the information required in paragraphs (a) and (c) of this section. The invoice shall also bear the following statement signed by the seller and shall be true to the knowledge of the seller in all respects:

"The total conversion parts used do not exceed the actual requirements for the conversion of the heating boiler from oil firing to the use of solid fuels. The weight of the parts so used and listed on this invoice is accurate and the prices therefor conform with Revised Maximum Price Regulation No. 236, issued by the Office of Price Administration to the best of my knowledge and belief."

1346.166 **Licensing.** The provisions of Supplementary Order No. 18 (§ 1305.22)[4] licensing person selling lumber, lumber products or building materials are applicable to every person (except manufacturers) making a sale of conversion parts for which maximum prices are fixed by this regulation.

1346.167 **Petitions for amendment.** Any person seeking an amendment of any provision of this Revised Maximum Price Regulation No. 236 may file a petition for amendment in accordance with the provisions of Revised Procedural Regulation No. 1, issued by the Office of Price Administration.

1346.168 **Enforcement.** (a) Persons violating any provisions of this Revised Maximum Price Regulation No. 236 are subject to the criminal penalties, civil enforcement actions, license suspension proceedings, and suits for treble damages provided for by the Emergency Price Control Act of 1942, as amended.

(b) Persons who have evidence of any violation of this Revised Maximum Price Regulation No. 236, or any price schedule, regulation, or order issued by the Office of Price Administration, or of any acts

[4] 7 F. R. 7240.

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or practices which constitute such a violation are urged to communicate with the nearest state, district, or regional office of the Office of Price Administration, or its principal office in Washington, D. C.

(c) The provisions of paragraph (a) of this section shall not be applicable to any war procurement agency or any contracting officer thereof, and any such contracting officer or any paying finance officer shall be relieved of any and every liability, civil or criminal, imposed by this Revised Maximum Price Regulation No. 236, or by the Emergency Price Control Act of 1942, as amended.

1346.169 **Definitions.** (a) When used in the Revised Maximum Price Regulation No. 236, the term:

(1) "Person" includes an individual, corporation, partnership, association, or any other organized group of persons, or legal successor or representative of any of the foregoing, and includes the United States or any agency any of the foregoing.

Fireplaces

(Continued from Page 53)

With the "fresh air" type of fireplace a different condition exists in that air which replaces that carried off by the flue draft enters the house through the heating chambers of the fireplace unit and is delivered at a temperature of around 200 deg. F. instead of coming in at 30 deg. F. through the window and door cracks. The heating passages through the unit offer far less resistance to the ingress of the incoming air than do the small window and door cracks.

The only suggestion which we are able to offer to increase fireplace heating efficiency is that wherever the fireplace is of ordinary construction the fire should be built with a blacklog; if a recirculating or fresh air type of fireplace is installed the fire should have a front log in order to deflect the heat to the back of the fireplace.

There are so many variables in connection with fireplaces that it is impossible to reduce them to an exact science. The efficiency of a common fireplace varies tremendously with the material used for lining the firebox, the slope at which the sidewalls and the backwalls are built to give off radiation, and the depth of the fireplace opening itself. Even those fireplaces of the recirculating or fresh air type will vary considerably in operation depending upon the fuel burned, the aount of fuel used and the tightness of the house's construction. The radiant heat emitted from a fireplace can be calculated in an easier manner; its intensity varies inversely with the square of the distance and, of course, its effects are not felt beyond its directed line of travel.

John B. Turner,
General Manager,
Bennett Fireplace Company,
Norwich, N. Y.

Coal, Oil Situation

Washington, D. C., November 27—All fuel oil consumers—industrial, commercial and domestic—who plan to convert their facilities to coal should place their coal orders now, Secretary of the Interior Harold L. Ickes said today, acting in his joint capacity as Petroleum and Solid Fuels Coordinator. He explained:

"It is particularly important for industrial and commercial consumers to get commitments on coal in order to assure themselves of sufficient quantities when their facilities have been converted. Large users of fuel oil will necessarily use large quantities of coal.

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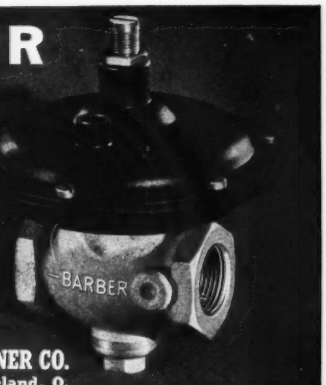

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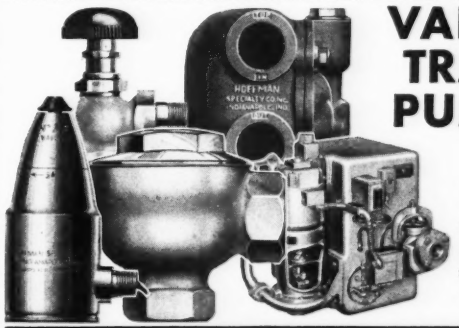

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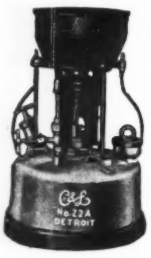

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Advance planning will prevent hardships.

"However, it is also important that advance orders for coal be placed by householders (the domestic fuel oil users) who plan, or who realize they may be forced, to convert to coal.

"With winter practically upon us, and with oil shipments to the East Coast averaging considerable less than expected, everyone who can must convert, if our families are to be kept warm; if our essential war industries are to continue operating throughout the winter and if we are to continue supplying ever-increasing amounts of fuel oil, gasoline and other petroleum products to the Allied forces now fighting on many fronts.

"While everything possible is being done by the oil industry and the Office of Petroleum Coordinator to speed up construction of the 24-inch oil pipeline from Longview, Texas, to Norris City, Illinois, and while plans are being made to extend this line to the East Coast, it should be emphasized that this line will do comparatively little to solve oil shortage problems this winter.

"Moreover, tank car shipments to the East Coast are considerably below the hoped-for 900,000-barrel daily mark. In short, we cannot guarantee any specific number of tank cars being moved to this area daily. Nevertheless, this Office, the oil industry and the railroads are not relaxing to keep the daily figures as high as possible."

Deputy Coordinator Ralph K. Davies said that reliable oil industry surveys show:

"Only 27,000,000 barrels of industrial fuel oils, and 4,203,750 barrels of home heating oils are being saved annually, to date, by conversion to coal or some other alternate fuel in the East Coast area. However, carefully conducted surveys indicate that a total of 57,969,000 barrels of industrial fuel oils and 35,625,000 barrels of home heating oils can be saved annually in the East Coast area by conversions, if all possible conversions are made.

"In the case of many domestic (homeowner) conversions, the question is one of willingness to convert. Of the 35,625,000 barrels annually which are indicated as convertible, 11,400,000 barrels can be saved by consumers who already have on hand all of the materials with which to convert. The remaining 24,225,000 barrels could be saved annually if the consumers would purchase grates or lugs which are available without priority ratings."

Purchasers of "Class A" stokers (that is, coal stokers having a grate area of 36 square feet, or less, and a coal-feeding capacity in excess of 60 pounds per hour should fill out WPB Form PD-668 in quadruplicate and mail to the War Production Board, Attention: Henry S. Norris, Plumbing and Heating Branch, Reference: L-75, Washington, D. C.

Applications for coal stokers having a grate area over 36 square feet, should be made on a WPB Form PD-1A, in duplicate, and mailed to the War Production Board, Attention: PD-1A Unit, Washington, D. C.

Of the 11,000 tons of iron and steel which WPB made available for conversion purposes a short time ago, only 5,000 tons have been used to date, Mr. Davis reported.

Due to space limitations it was impossible to continue the list of thermal zones begun in the November issue. Readers desiring further information may get it by writing The Editor, 1900 Prairie Ave., Chicago.

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WANTED TO BUY—PLUMBING AND heating supplies or complete stocks. Send us your list. NORWEST PLUMBING & HEATING SUPPLY CO., 3993 Grand River Ave., Detroit, Mich. Telephone Temple 1-9434.

WANTED TO BUY: WILL PAY CASH for steel storage tanks from 5,000 gal. to 100,000 gal. capacity. THE DARIEN CORPORATION, 49 E. 41st ST., NEW YORK, N. Y.

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The eyes of all America are upon the United States Treasury Roll of Honor appearing in the "Payroll Savings News." For copy write War Savings Staff, Treasury Department, Washington, D. C.

HOW TO "TOP THAT 10% BY NEW YEAR'S"

Out of the 13 labor-management conferences sponsored by the National Committee for Payroll Savings and conducted by the Treasury Department throughout the Nation has come this formula for reaching the 10% of gross payroll War Bond objective:

1. ***Decide to get 10%.***
   It has been the Treasury experience wherever management and labor have gotten together and decided the job could be done, the job was done.
2. ***Get a committee of labor and management to work out details for solicitation.***
   a. They, in turn, will appoint captain-leaders or chairmen who will be responsible for actual solicitation of no more than 10 workers.
   b. A card should be prepared for each and every worker with his name on it.
   c. An estimate should be made of the possible amount each worker can set aside so that an "over-all" of 10% is achieved. Some may not be able to set aside 10%, others can save more.
3. ***Set aside a date to start the drive.***
4. ***There should be little or no time between the announcement of the drive and the drive itself.***
   The drive should last not over 1 week.
5. The opening of the drive may be through a talk, a rally, or just a plain announcement in each department.
6. Schedule competition between departments; show progress charts daily.
7. Set as a goal the Treasury flag with a "T."

AS of today, more than 20,000 firms of all sizes have reached the "Honor Roll" goal of at least 10% of the gross payroll in War Bonds. This is a glorious testimony to the voluntary American way of facing emergencies.

But there is still more to be done. By January 1st, 1943, the Treasury hopes to raise participation from the present total of around 20,000,000 employees investing an average of 8% of earnings to over 30,000,000 investing an average of at least 10% of earnings in War Bonds.

You are urged to set your own sights accordingly and to do all in your power to start the new year on the Roll of Honor, to give War Bonds for bonuses, and to purchase up to the limit, both personally and as a company, of Series F and G Bonds. (Remember that the new limitation of purchases of F and G Bonds in any one calendar year has been increased from $50,000 to $100,000.)

TIME IS SHORT. Our country is counting on you to—

"TOP THAT 10% BY NEW YEAR'S"

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save with
War Savings Bonds

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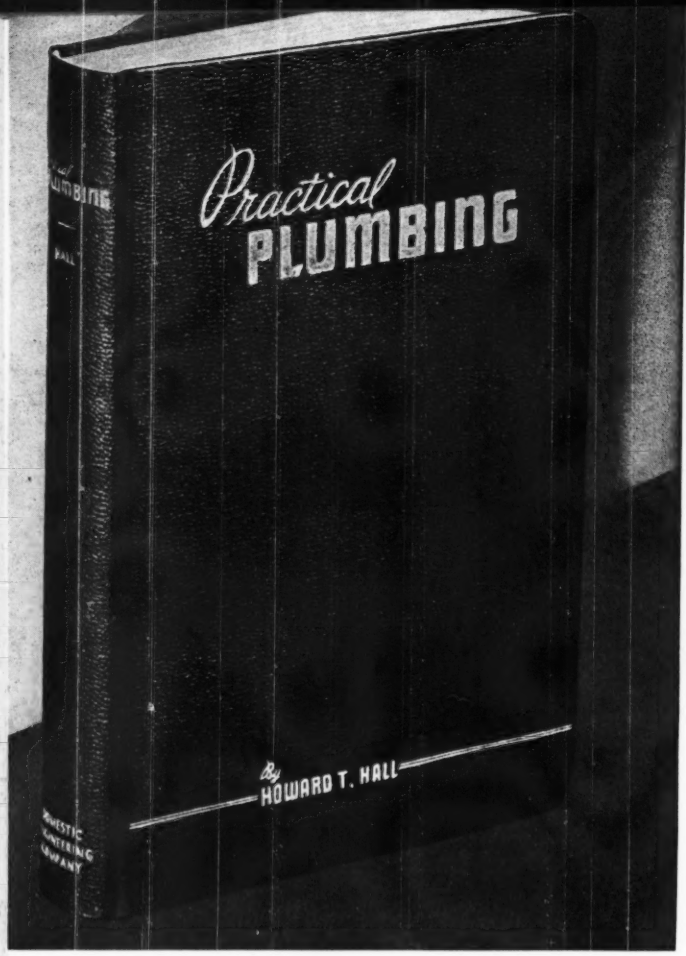

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